

SCHOLASTIC COACH

JANUARY, 1950

BUILDING AND EQUIPMENT

ISSUE • 25c



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SCHOLASTIC COACH

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VOLUME 19 • NUMBER 5 • JANUARY

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Publisher • G. HERBERT McCracken

Editor • HERMAN L. MASIN

Advertising Manager • OWEN REED

Layout • E. E. MIZEREK

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COACHES and TRAINERS HAIL NEW REMEDY for ATHLETE'S FOOT



Wayne Rudy, famed trainer of Southern Methodist University, uses and endorses the new remedy, NP-27. Read what he has to say:

"I recommend NP-27 very highly as a fungicidal and germicidal antiseptic for Athlete's Foot. It was used on both old and current cases on our squad, and NP-27 gave amazingly quick results. That it proved non-irritating on new cases was impressive to me. I recommend NP-27 to all coaches and trainers as a preventive and cure for Athlete's Foot."

Wayne Rudy

TRAINER

Now a better remedy for Athlete's Foot is here—NP-27, a product of The Norwich Pharmacal Company's research laboratories.

First, a group of 12 eminent chiropodists tested NP-27 and published their results in a scientific journal. Those results were sensational. Now chiropodists everywhere hail NP-27.

Next, athletic coaches and trainers tested it. Now they are equally enthusiastic. "Lefty" James, Cornell's great football coach, says: "Of all the antiseptics we have used, NP-27 is the most successful as a preventive and cure for Athlete's Foot." Hugh Burns, head trainer of Notre Dame, says: "Since we have begun using NP-27, we have considered no other fungicidal antiseptic. It is most effective." Many other famous coaches and trainers make similar statements.

NP-27 is so effective because it acts 3 ways:

1. It penetrates even tough tissue like toenails. That's important because the fungus which causes Athlete's Foot burrows into the skin.
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NP-27





Basketball's two-minute egg

TAKE a good look at the two-minute rule, men. Something tells us it is not long for this world. Not since Ned Irish invented the \$6 admission charge has the hoop cosmos exhibited such a united front against anything.

Coaches . . . players . . . spectators . . . are all pitching spit balls at the rule. And if its founding fathers are the least bit sensitive, you can bet your last airpump they will throttle the thing at their next meeting.

Don't get us wrong, friends. Our heart bleeds for the rules-makers. They had to do something about all that roughhousing in the closing minutes, and the two-minute rule appeared a powerful enough solution.

How could the defense keep belting the offense when every foul in the last two minutes would be treated as a technical—with the shooting team retaining possession whether the foul was converted or not?

The rules-men couldn't have arrived at a stronger solution if they had mixed dynamite and cyanide. The formula positively bulged with atomic molecules. But even on paper it showed a certain lack of cohesion.

The most obvious flaw was that it made a 38-minute game out of basketball. Any well-coached team that had a lead at the 38-minute mark could be counted on to win. All it took was a little artful freezing. For it is almost impossible to sneak the ball away from a team intent on holding on to it—that is, without fouling; and you can't breathe on a guy these days without the ref breathing into his whistle in return.

And that is exactly how it has worked out. As yet we haven't seen a team trailing by more than two points, pull a game out of the fire in the last two minutes.

Like westerns and Bill Stern sagas, the script never varies: At the two-minute mark, the leading team goes into a deep freeze and the trailing club comes in close. At first, the trailers are cautious—they don't

want to foul. But as the precious seconds keep ticking off, they become desperate. They start pressing closely. Toot! Foul!

Let us assume that after some assiduous hounding, the trailing team is lucky enough to steal the ball and sink a basket. This still leaves them a point or so behind or, at best, knots the score.

What happens then? The opponents get the ball and the other team must again sweat basketballs trying to get it. This is far too killing a handicap to operate under.

Besides bleeding the trailing team, the new rule can be faulted in two other respects. First, it has not accelerated the closing stages of the game, as originally intended; and, second, it has given the waning minutes of play a comic-opera touch.

Since (1) the clock is stopped on every dead ball (2) there are just as many fouls as ever, and (3) it takes time to shoot these fouls and put the ball into play again, no speed-up or saving of time has been effected.

The last two minutes of a close game still take anywhere from seven to 12 minutes to complete. We recently saw a game in Madison Square Garden in which the final two minutes actually lasted 18 minutes!

Even for people who hate to go home, these interminable codas are impossible to sit through. Since every foul is treated as a technical, the action comes to a dead stop. And the spectacle of one fellow leisurely taking a free throw with nine other players standing around in mid-court nervously twiddling their thumbs, isn't calculated to stir the blood. Six or seven such vistas in succession can drive a lot of hoop fans to television.

All right, so what can be done about these malleasances? First, for heaven's sake, let's toss the present two-minute rule over the backboard. We need a new rule, and here are two suggestions (covering fouls in the last two minutes):

1. If the throw is converted, the shooting team takes the ball outside. If missed, the ball stays in play. The advantage is rightfully with the shooting team, but the opponents still have a chance to get the ball.

2. Adopt the pro rule which calls for a jump ball at the foul line after a successful conversion and the continuance of action if the throw is missed. The advantage is still with the shooters, but to a slighter degree than above.

OUR agonized beef last month against the extra point in football found at least one sympathetic soul in Joe Wiedman, the grand not-so-old man of James Monroe High School (N. Y.) football.

He tells us that he enjoyed our plea to abolish the try after touchdown, but that he would like to improve on our suggestion to award a game-winning point (in case of tie) to the team outscoring the other in first downs.

Joe would like to award an extra point after every touchdown to the team which amassed the most first downs prior to the tally.

For example, if Team A, between the start of the game and the first score, rolled up three first downs to Team B's two, Team A would be awarded a point. That would make the score 7-0 if Team A tallied the touchdown, or 6-1 if Team B did the scoring.

A new first-down count would then be started, and continued until another touchdown was scored. At this juncture, another point would be awarded to the team that amassed the most first downs between the scoring of the first and second touchdowns . . . and so on during the game.

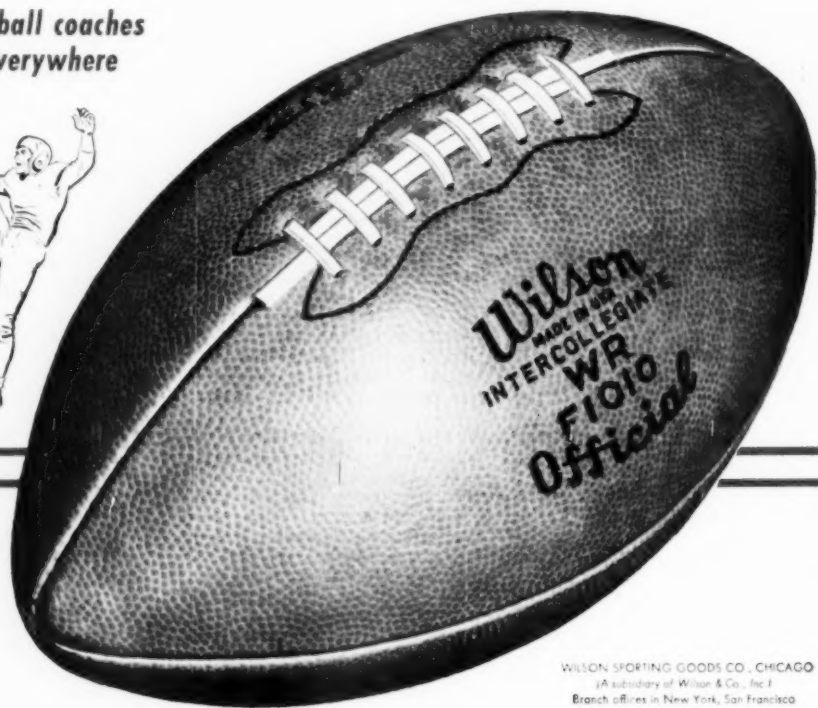
Quite an idea, eh? Sounds a bit complicated, but study it a while and you'll get to like it more and more. At least that was our reaction, Joe tells us that he has offered the suggestion to Lou Little and
(Concluded on page 58)

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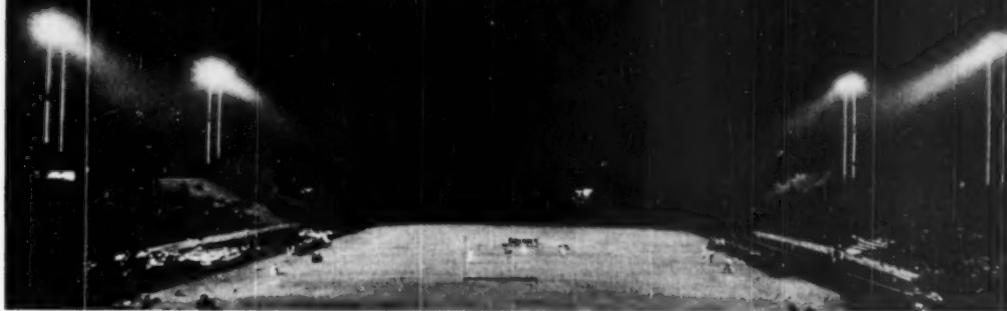
TOPS with football coaches
and players everywhere



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IT'S WILSON TODAY IN SPORTS EQUIPMENT

Does Floodlighting Pay?



EVEN the most adamant adherent of daytime sports can no longer escape the handwriting on the wall—nighttime play is here to stay and is looming larger and larger in the high school shape of things.

In after-dark football, for example, our schoolboy administrators have discovered the panacea to most of their financial problems. By opening the sport to the working public, they have boosted gate receipts to an all-time level and, in addition, have strengthened the link between the community and the school.

Night-lighted fields have also opened up new avenues for school and community recreation, and, in general, has had a most salubrious effect on the athletic program.

Scholastic Coach has followed this development with keen interest. Over the past 12 years, no other school publication has devoted as much space to the technical and general aspects of floodlighting. That these articles have been meeting a definite need has been thoroughly demonstrated by the continual flow of inquiries throughout the year.

In an effort to crystallize the latest developments in the field, *Scholastic Coach*, last month, launched a comprehensive questionnaire survey. Every outstanding national manufacturer of floodlighting equipment was contacted and asked for a list of schools and colleges recently serviced.

The final result was a master list of the latest, most modern floodlighting plants. Each of these schools was sent a 13-point questionnaire, to wit:

A preliminary report on a survey of the latest after-dark sports plants

1. Seating capacity of your stadium.

2. Was seating capacity increased when lights were installed?

3. Do you have plans to increase the seating capacity?

4. Total wattage of your system.

5. Total number and type of poles in your layout.

6. How many floodlighting units (lamps) on each pole?

7. Total cost of installation.

8. Effect of lights on gate receipts.

9. What were the main reasons for installation of lights?

10. From where or how were the funds obtained?

11. How many of the schools on your schedule have their own floodlighted fields?

12. What night do you play your football games . . . other sports?

13. Do other groups in your community use the floodlighted field? For what purposes?

The cooperation of the canvassed schools was truly gratifying. Within 10 days, 53 completed questionnaires lay on our desk. Since they revealed some interesting and valuable data, it was decided to compound the information into a preliminary report, so that the nuggets gleaned therefrom could be utilized immediately.

Seating capacities. Ranged from a low of 300 to a high of 21,000 (Massillon, O.), with an average of 3,634. Most schools indicated that they increased their seating facilities when they installed their lights, while the great majority stated that

they intend to further increase their capacities in the future.

Total wattage. Ranged from a low of 51,000 to an astonishing high of 418,000 (Poughkeepsie, N.Y.), with a mean of 140,146. It should be understood that the wattage conforms to the size of the stadium, its seating facilities, and its uses. Smaller stadiums naturally don't need the light that the larger stadiums need.

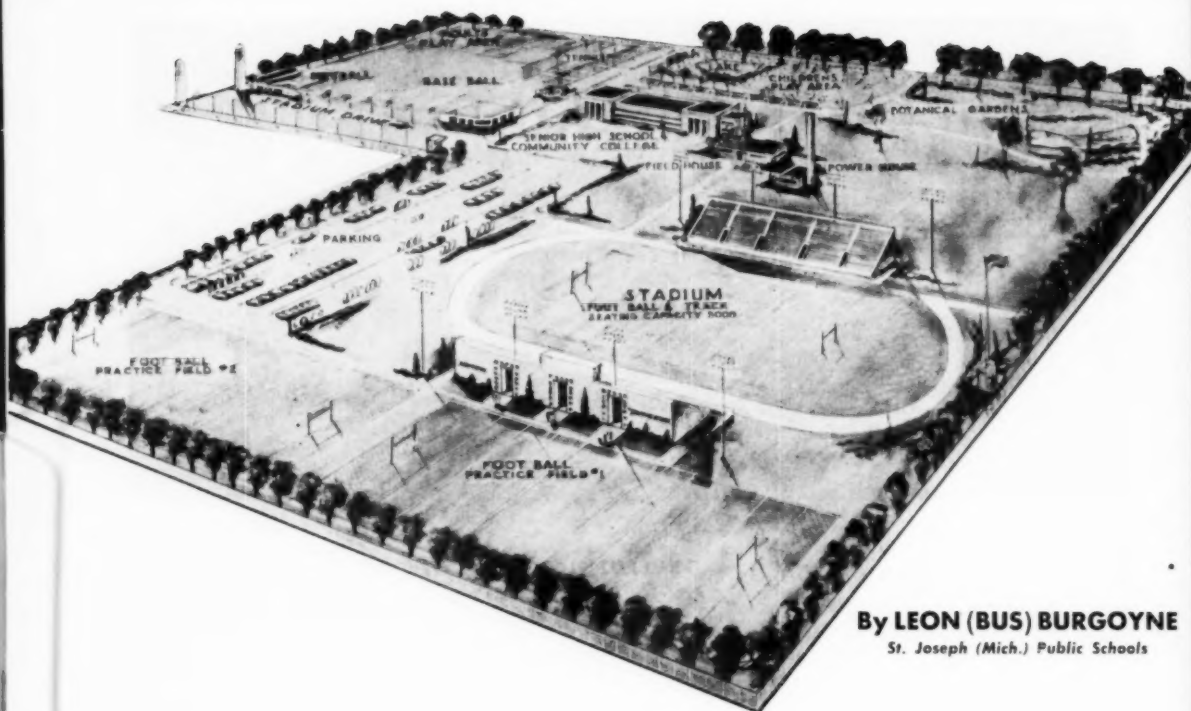
Nevertheless, the average of 140,146 is tremendously impressive, being far, far above what it was 15 or even 10 years ago.

Poles. Ranged from 6 to 14, with the 8-pole arrangement being preferred. Next in popularity was the 10-pole layout. According to the returns, the steel pole is definitely superseding the wooden pole. Nearly half our new stadiums are now using steel poles—a natural offshoot of modern lighting. The heavier battery of lights on the modern field require higher, stronger, and more durable mounting uprights.

Total cost. Ranged from a low of \$2,500 to a high of \$52,000, with an average of \$14,765—a very moderate outlay considering the immediate financial benefits accruing.

Gate receipts. Practically every school reported a substantial boost in revenue, with most schools indicating a 100% hike in gate receipts. All in all, the increases ranged from 20% to 1,300%. The latter figure was reported by Cold Spring, Minn.:

(Concluded on page 44)



By **LEON (BUS) BURGOYNE**
St. Joseph (Mich.) Public Schools

NEXT fall, the St. Joseph (Mich.) Bears will open their home football schedule in a new stadium which promises to offer the best in the way of schoolboy athletic facilities. What's more, this stadium will represent just the first phase of a long-term, three-pronged building program.

Four years ago the city of St. Joseph and its Board of Education acquired joint title to a 40-acre tract of land at the edge of the city limits. This area, known as the Dickinson Estate and famed for its landscaping and imposing structures of a bygone era, made a valuable addition to the school and city property. Officials immediately envisioned it as the ideal location for a much needed athletic and recreation center.

The wooden grandstand, vintage of 1917, at Wells Field was dilapidated and outmoded. It was an eyesore to the community, and faculty members more than once voiced the hope that a stiff northwester off neighboring Lake Michigan would one day send it tumbling to the ground, thus necessitating the erection of something more adequate.

Wells Field offered no parking area except the nearby streets. Football in St. Joseph had outgrown the once ample facilities and hun-

dreds of interested fans were staying away from the games due to the lack of accommodations.

The voters of the community determined to make use of the Dickinson Estate and on July 25, 1949, gave an overwhelming majority to a \$170,000 bond issue and a 2-mil raise in taxation for a five year period, the money being earmarked for the erection of a new football stadium and track.

Robert V. Knox, A.I.A., St. Joseph architect, drew up plans for a long range project on the property, and workmen immediately began construction on the first phase of the program. This includes the football field and stadium, two practice fields, a quarter-mile track, and parking area. The work will be completed in time for the first game of the 1950 football season.

Edward Norton, Superintendent of Buildings and Grounds for the St. Joseph Public Schools, designed and laid out the field and track. The field is 200 feet wide between the inside curbs of the track and has

a one-foot crown designed as a parabolic curve. From the centerline there is a one-tenth foot fall in the first 25 feet, two-tenths fall in the next 25 feet, three-tenths in the third, and four-tenths in the last.

Light sand constitutes the subsoil of the field. Four inches of clay were spread over the area after it was leveled and this was roto-tilled to a depth of eight inches. Black dirt was added to a depth of four inches and again the roto-tiller moved over the field with its blade set at eight inches. Thus, the surface soil is approximately 50% black dirt, 25% clay, and 25% sand.

The grass seed used is *alta fescue*. This seed, recommended by Michigan State College, is noted for its deep root system, quick recovery, and resistance to drought.

An 18-inch storm sewer runs under the field at the 50-yard line. There is no tile in the field proper because of the nature of the soil, but catch basins to handle surface drainage are located at 50-foot in-

St. Joseph's

ervals around the entire inside circumference of the track. An eight-inch tile drain connects these catch basins with the storm sewer.

A six-inch reinforced concrete curb, one and one-half feet deep and with an expansion joint every 50 feet, circumscribes the field and forms the inside circumference of the quarter-mile track.

There is a one-inch water line on each side of the field at the 50-yard line. A large Buckner sprinkler will water the field at night. Traveling along a 300-foot cable and dragging 175 feet of hose, the sprinkler will thoroughly soak an area 100 feet in diameter as it moves. This sprinkler travels 300 feet in eight hours and shuts off automatically at the end of its run. One night it will water one half the field and the next night will water the other half.

The stadium, with a capacity of slightly more than 5,000, will consist of a stand on each side of the field. Each will be 180 feet long, located between the 20-yard lines, and will feature all steel construction.

The west stand will be backed with concrete in a futuristic design.

side of the field and located behind the stands, will carry the lights for night games. Each pole will be 90 feet in height and will carry 16 lights. Since the total wattage thus comes to 144,000, the floodlighting plant will fall between a Class 1 and Class 2 installation.

A scoreboard and electric timer will furnish game information at the north end of the field.

Elaborate plans have been made for facilities under the west stand. The north half of this stand will house the home team dressing room. This will be 25 feet 8 inches by 42 feet 8 inches. In one corner of this room the coach will have a 10 by 11 office, a private toilet and shower, and a small storage room; and the trainer will have a room 10 feet by 12 feet.

All equipment—game and practice—will be issued from a 17 by 20 equipment room opening into the main dressing room. The team shower room will be 8 by 16.

The south end of the stand will house a large dressing room and showers for the visiting teams, an officials' room, public toilets, and a room for the heating plant. Directly

ern in this section of the country.

It will be 25 feet in width, permitting six hurdle lanes, will have two chutes with a 220-yard straightaway running in front of the east stand. The outside curb will be one-tenth higher than the inside curb to permit a one-tenth fall from the outside to the inside for drainage purposes.

The eight-inch tile drain around the inside circumference of the track and connecting the catch basins with the storm sewer will furnish the only drainage necessary except for the west straightaway. A high water table here necessitated the use of an eight-inch drain down the center of the track and located four feet below the finished grade.

The finished level will come within two inches of the top of the curb; and at every 50 feet, drainage vents will carry surface water to the catch basins.

Six inches of two and one-half inch limestone will make up the rough fill of the track. To this will be added six inches of crushed limestone graduated from rough to fine size. Instead of the usual cinders, this will be topped with ground red brick.

Bronze plates with raised numbers and letters secured to the top of the curb, will mark the start and finish of the various distances. Three pits, a broad jump runway, and a pole vault runway will be located on the east side of the field between the gridiron and the curb. The high jump will be at the south end of the field.

St. Joseph plans to complete the second phase of the project without additional increase in taxation. This part of the program will include six lighted tennis courts, four lighted horseshoe courts, a volleyball court, basketball court, six shuffleboard courts, putting green, softball diamond, and a baseball diamond.

Citizens of the community are already looking forward to the third and final phase of the project. This will consist of a million and a half dollar high school and community college, featuring an auditorium which will seat 3,000 people.

In an era of abundant taxation and a period when many communities are turning down tax proposals to furnish much-needed additions to inadequate school facilities, schools may be interested in the behind-the-scenes planning which so successfully limned this project to the voters.

The idea was conceived four years ago with the acquisition of
(Concluded on page 42)

New Stadium

This stand will have 23 rows of seats plus a row of 26 box seats located at its top level. Each box will accommodate four persons and a metal canopy will cover the entire row of boxes.

The east stand will have 25 rows of seats and both stands will have a pitch of 28° to ensure the best possible vision. Four vomitories will open into each stand and provide easy access to all seats.

A press box and radio booth, 33 feet long and nine feet wide, will rest on top of the west half of the stadium. It will be large enough to accommodate separate rooms for the press and radio staffs as well as the others who always manage to find their way into the box.

An intercommunication system will connect the box with the players' bench, enabling the coach or one of his assistants to spot the play on the field and direct the team from above. The roof of the press box will be used as a photographic deck.

Six steel poles, three on either

opposite the entrance to the west stand there will be a large, modern concession stand.

Wire fencing will enclose the entire field and stadium, assuring school officials complete control of the crowd.

The plans call for two practice football fields directly behind the west stand. These fields will furnish practice areas for the varsity and reserve teams, as well as a home for an extensive junior high school football program.

A parking lot of turf design will accommodate 800 cars at the north end of the field and there will be facilities for an additional 1,200 cars. A stadium drive, 100 feet wide and guaranteeing four lanes of traffic in exit, will lead into the parking area.

School officials invited Dr. Lloyd Olds of Michigan Normal College and assistant track and field coach of the 1948 United States Olympic Team, to be the consultant on the track. He has stated that the quarter-mile track will be one of the most mod-

TEURTOPOLIS Community High School, serving an area of 90 square miles and about 2,000 people, needed a new gym. The old gym, like the one-hoss shay, had to give way. Its small playing area, its cramped, dark, damp dressing rooms would no longer do.

The chief spectator interest here at the home of the "Wooden Shoes" is basketball, and adequate seating facilities had to be installed. Since the school and the community also take a lively interest in dozens of other big and little muscle activities, how to get the most for the least amount of money became the problem.

Dozens of schools within a radius of 200 miles were visited, and the good and (particularly) the bad things were noted. At many of the places visited, it seemed that the dressing rooms had been added as an afterthought in any available space.

Equipment rooms were usually too small, too dark, and inaccessible. Facilities for the cash customers—toilets, refreshment stands, smoking room space, convenient entrances and exits—were conspicuous by their absence; and the band frequently was situated in the worst possible place to show its wares. As a rule, the band performed on a stage directly in line with a goal—the perfect spot for the sousaphone to catch stray passes.

A survey of the alumni was made to get their suggestions. Businessmen, students, farmers, etc., were all urged to make known their likes and dislikes for the proposed addition.

The result was a list of "considerations." This was given to the architect to indicate what was wanted and what was not. His job was to work out the details, incorporating our desires. Following are the considerations.

1. A playing floor from 96' to 100' in length, with sufficient width for basketball cross-courts, a minimum of 70'.
2. A play area other than the main gym floor, for such activities as dancing, tumbling, shuffleboard, table tennis, wrestling, correctives.
3. A minimum of 22' feet clearance in the gym.
4. Recessed drinking fountains close to the play area.
5. Non-slippery shower and dressing room floors.
6. Complete absence of sharp corners, protruding pipes and other unnecessary hazards.
7. Adequate ventilation without draft.

8. Location of bleachers for complete view of the entire floor.

9. Toilets for the public close to the lobby.

10. Dressing rooms that are large, airy, sunlit, and odorless.

11. Equipment room close to the dressing rooms.

12. Direct outside entrance for physical ed and varsity boys.

13. Bulletin boards in all rooms.

14. Small blackboard in varsity and visitors' dressing rooms.

15. Walls and floors that can be cleaned.

16. Plenty of electrical outlets 3' to 4' from the floor.

17. Janitor's closet located conveniently.

18. Provision for easy and safe servicing of gym lights.

19. Safe area for band on game nights.

20. Provision for keeping public out of main building during game nights.

21. Room for concessions and for smoking.

22. Every possible provision for prevention of fire.

Simplicity marks the arrangement of the building. It is no basement. After passing the ticket office, there is little need for anyone leaving the building, thus doing away with pass-out checks and their attendant evils.

A few steps up, immediately off the lobby, is the ladies' rest room. Around the corner 20 feet, but off the main corridor, is the men's rest room. The concession room is also in the front of the building.

The corridor, lobby, dressing rooms, and gym have vitrified tile walls to facilitate cleaning. A light greenish cream color was chosen. All dressing rooms and offices having to do with boys' physical education, are immediately off the main corridor.

There are three dressing rooms for boys. Dressing room A is called the visitors' room and is also used by the community for league play. There are no lockers in this room, merely racks for the temporary hanging of clothing.

Dressing room B, the varsity dressing room, and dressing room

By J. H. GRIFFIN
Athletic Director, Teutopolis (Ill.) H. S.

C, the general P. E. dressing room, adjoin in such fashion that only one group of showers is necessary. The equipment room has a small wall opening for the issuance of equipment directly to this varsity room.

The music department is above the boys' department and the band room opens on the gym proper. Thus, band members are in a safe place to see and to be seen as they play for the games. The girls' dressing rooms occupy about a third of the second floor, and are completely separated from those of the boys, an arrangement appreciated by both groups.

The gym is 100 feet long and 112

DeLuxe Model Gym

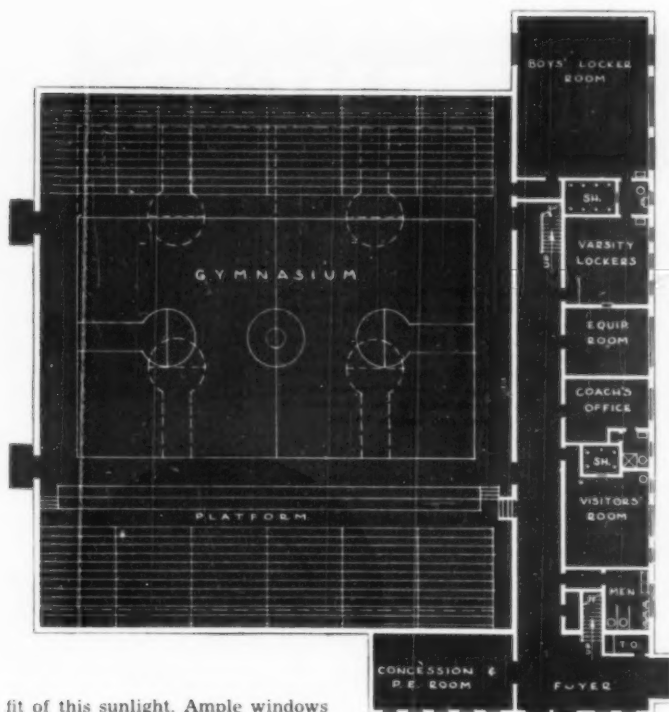
wide. A stage or platform three feet high and 25 deep runs the length of the building for the entire 100 feet. For games, the 12 rows of telescopic bleachers will hold 864 people (allowing 16 inches per person).

In front of this platform are two risers for 108 stadium type seats. The bottom riser is up one foot from the floor, and since there are about 7 or 8 feet to the playing floor there is ample room for a row of 60 or 70 folding chairs. The bleachers on this stage, when pushed in, furnish about 22 feet of floor space.

A nice play area is thus secured for those activities that must be kept off the gym floor, such as wrestling, boxing, tumbling, table tennis, noon-time dancing, and bar-bell work.

Across the floor from the stage are 12 more rows of folding type bleachers seating the same number as on the stage or platform. When these are folded, space for two basketball cross-courts, each about 72 by 44 feet, becomes available. The main court is the regulation 84 by 50 feet with ample run-under space at each end—12 feet beyond the boards.

The dressing room wing cuts off the west sun from the gym, making shades unnecessary. But the dressing rooms themselves get the bene-



DIRECTOR of athletics at Teutopolis (Ill.) Community High School for the past 25 years, J. H. Griffin is now happily contemplating the beautiful new gymnasium being built to house his extensive sports and physical education program. Following are the individuals and companies responsible for the planning and construction of this ultra modern plant:

Administrator—Sister Mary Ethelbert.

Architect — Frank Holmstrand, Decatur Engineering Corp.

Bleachers—Horn Bros. Co.

Floor Finish—Huntington Labs.

Plumbing Fixtures and Shower Heads — American Standard Self Cleaning.

Unit Heaters and Ventilating Fans—Herman Nelson.

Cliff Boilers—Iron Fireman Stokers.

Automatic Controls—Minneapolis Honeywell Regulator Co.

Shower Stalls, Partitions, and Toilet Enclosures—Fiatt Metal Mfg. Co.

Flooring—No. 1 Northern Maple.

Reflectors—Decatur Electric Co.

Limestone — Indiana Limestone Co.

fit of this sunlight. Ample windows make for good ventilation, but the natural ventilation is augmented by exhaust fans which remove all odors.

The hot water is thermostatically controlled at 110°. Non-slippery floors in the dressing rooms were obtained by the use of carborundum dust worked into the finish.

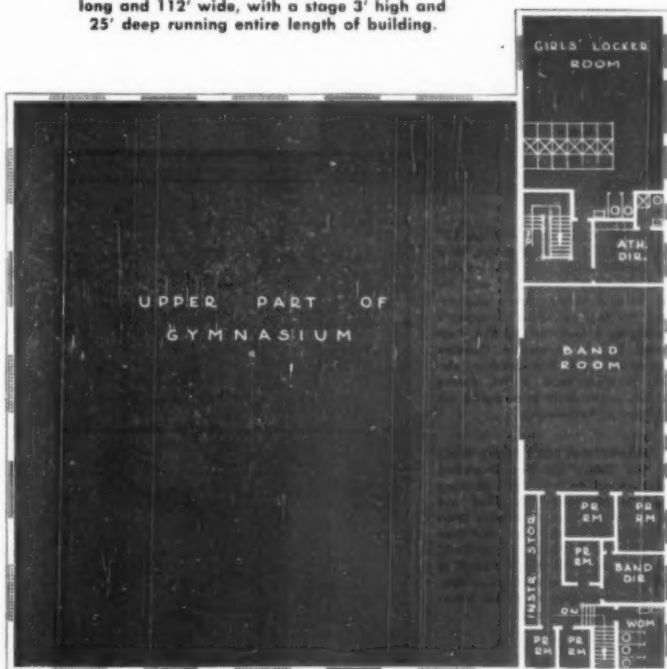
The heating system for the new building is two pipe steam. The new boilers are of stoker fired steel, and provide steam for both the old and new building.

The gymnasium proper is heated by means of unit heaters suspended from the roof trusses. The locker rooms, band room, varsity room, and other rooms are heated by means of unit ventilators. These unit ventilators bring in a predetermined amount of fresh outside air which is heated and mixed with recirculated air before delivery to the room.

The shower, locker, varsity, and equipment rooms are ventilated by an exhaust duct system. The unit ventilators bringing in outside air build up a plus air pressure in the various rooms. This plus pressure assures positive discharge of air through the exhaust duct system.

In warm weather when the boilers are not operated, the unit ventilators can be operated to bring in a hundred per cent outside air for ventilating purposes.

First floor (above) and second floor (below) of Teutopolis' new gym building. Gym is 100' long and 112' wide, with a stage 3' high and 25' deep running entire length of building.

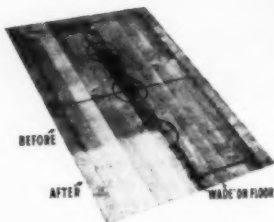


NEW EQUIPMENT

As a service to its readers, Scholastic Coach offers this periodic round-up of new sports equipment items. For further information write to: Scholastic Coach, New Equipment Department, 7 East 12 St., New York 3, N. Y.



• **LIQUID SEAL REMOVER.** Removal of old floor finishes is greatly facilitated by Huntington Labs.' new solvent—the Wade Seal Remover. A heavy-bodied liquid that is noninflammable, it will not damage grain or discolor the finest wood. One easy application does job. Covers evenly, evaporates slowly, and, as a result, penetrates deeper. Can be applied with brush, mop, or sprinkling can.

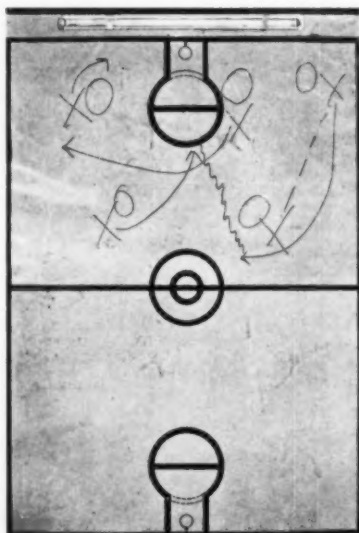


• **16-MM. FILM STRIP PROJECTOR.** Unusually helpful in studying athlete's form, the Dunning Animatic Projector advances film from one frame to another in 200th of a second and permits operator to stop any frame indefinitely. Any short lengths of black and white film (taken with a regular 16-mm. motion picture camera) can be analyzed in this manner. Is 6 x 11½ x 12" high and weighs 13 lbs.



• **SHUFFLEBOARD DISC.** Officially approved Dimco discs are moulded from high-grade plastic materials. Standard set includes 4 black and 4 Chinese-red discs. Offers increased "bounce" and long life because of wear-resistant and weatherproof qualities.

• **MAGIC SLATE (left).** A 9" by 12" device, the Instructor's Magic Slate for Basketball is ideal for on-the-spot coaching, traveling, and for use around coach's home and office. Writing on slate disappears merely by lifting the top film. Produced by the American Coaches Supply Co., this fine coaching device is also used a lot during games, particularly in mapping out strategy at half-time.



• **WARMERDAM POLE (right).** Made of the finest bamboo imported from Japan, each of these vaulting poles is personally inspected and tested by the great Cornelius Warmerdam. Available from the Sea-Net Mfg. Co. in 10, 12, 14, or 16 ft. lengths and will be trimmed in school colors at no extra cost. Special discount prices to school teams include shipping charges.





• **DELUXE BASKETBALL SCOREBOARD.** Absolutely the latest in modern design, the new Nevco board presents the correct time, period of play, running score, players in game, last man scoring, and personal fouls on each man. All aluminum cabinet, baked green wrinkle enamel, 182" x 110" x 7", it features a 36" indirectly lighted clock dial with 10" Light-O-Matic number and an automatic timing mechanism with magnetic brake which stops automatically at end of each period and sounds the siren.



• **FENCING WEAPONS RACK.** All metal in construction and compact in design, the Castello Fencing Equip. Co.'s new rack will hold dozens of weapons, masks, and other equipment. Units are light and portable and can be moved from one room to another or from a storage room to gym with ease.

• **PLASTIC LETTERS.** Oklahoma A. & M. College has recently installed a football scoreboard which employs two display frames 8' long by 24" high on which 17" black plastic letters are used to form the names of the opposing teams. Produced by Wagner Sign Service, these letters are exceptionally attractive, visible, durable, and economical.



• **DRESS JACKET.** Made of 100% virgin-wool 16-oz. flannel, this Butwin jacket is 32" long and has a rayon yoke and sleeve lining plus contrast braid trim on collar, cuffs, and pocket edges. Comes in all colors and is being used by frats, bands, tennis and golf teams, and as an award jacket.



• **KNEE CAPS** to match team uniforms can now be ordered from Bike Web. Comes in black, light gold, scarlet, Kelly green, royal blue, and white. A half-inch thick foam rubber pad absorbs shock, while two-way stretch webbing encasement fits contour of knee (or elbow), permitting free movement. Available in small, medium, large, and extra large sizes.

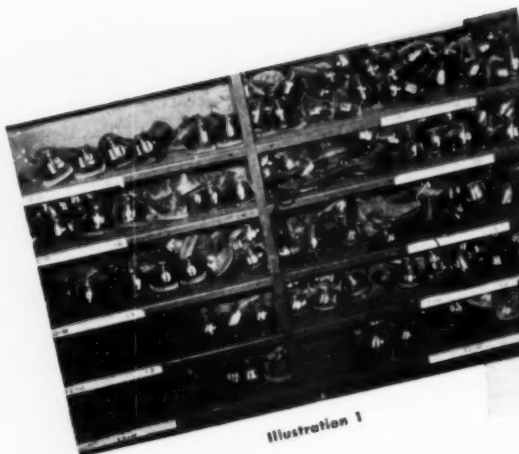


Illustration 1

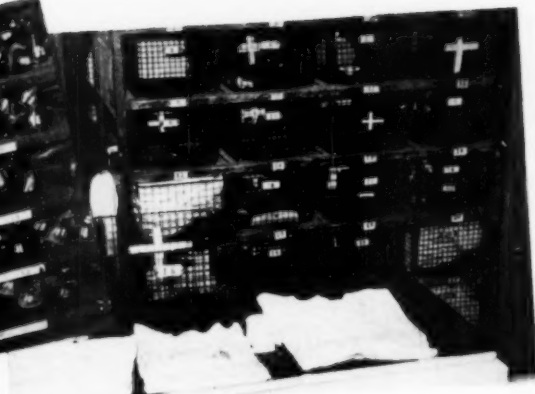


Illustration 2



Illustration 3

The Equipment Room

ment than all its hours of use on the fields and courts.

A recent survey in North Carolina involving 16 high schools and colleges, revealed the surprising fact that very few of the equipment rooms have been planned. This lack of foresight is a bad mistake. An equipment room, to fulfill its purpose more effectively, *must* be planned as carefully as the locker rooms and the offices.

The equipment room should be located in an area that will remain cool and dry throughout the year, particularly during the summer. Rubber goods are easily effected by heat, and excessive dampness will cause damaging mildew to appear on leather goods and fabrics.

The available space should be utilized to the fullest advantage. Shelves should be erected throughout the room, with the smaller shelves around the sides of the room and the larger bin-shelves in the center.

The larger shelves will be used primarily for the storage of clean equipment such as warm-up shirts and trousers, while the smaller shelves around the walls can serve as store places for shoes, thigh pads, and unopened boxes of new equipment.

The shelves should be numbered with the shoe sizes, and enough space allocated to accommodate all

the shoes that are to be stored. (See Illustration 1.)

The construction of these shelves is important in that care must be taken to insure proper ventilation. If the shelves are constructed of wood, they should come in two pieces with a one-inch space left between the boards to allow air to circulate.

A good shelving material that has proved satisfactory in the North Carolina region, is fine mesh wire such as chicken wire. This has been used principally for the storage of balls and it allows for excellent ventilation.

Each room should be equipped with a small work bench that will enable the custodian to make minor repairs and adjustments on the equipment. This bench should also include pumps for inflating balls.

The equipment room should also include a bench for shining shoes—preferably operated by an electric motor and whirling brushes. This will enable the custodian to clean the shoes quickly and efficiently.

The texture of the floor cannot be properly prescribed, because most schools aren't blessed with enough money to get what they want. However, tile is easiest to clean and does not hold moisture as will wood and cement. Smooth cement that is painted also provides a good flooring.

No equipment should be left on the floor, because dampness will seep into the articles and the equipment. (Concluded on page 56)

WITH school budgets and equipment costs being what they are, it is more imperative than ever before to pay careful attention to the equipment already on hand. Equipment that isn't properly cared for has little or no chance of ever fulfilling its original purpose.

"Home" to the leather, rubber, iron, and wooden implements of athletics is the equipment storage room. A clean, well-kept room can add months to the life of the equipment. Remember, nearly every piece of gear spends about three hours in the equipment room to every hour on the field.

During the hours that the equipment is resting, it should be cleaned and mended to make it more durable and more desirable on the field. A dirty, vermin-infested room can inflict a greater toll on the equip-

By FRANK J. MURRAY

Physical Education, U. of Florida

Riddell

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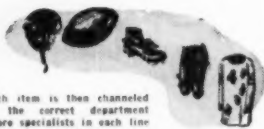


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OFFICIATING SEMINAR

By ROY JOHNS, JR.



THE training of capable high school athletic officials and the inculcation of the rules to prospective coaches, are the objectives of a course being given at Albion (Mich.) College, under the direction of Dale Sprankle, director of athletics.

Instituted informally by Sprankle in 1936, the program was given a place in the curriculum in 1943 and is now required of all physical education majors and minors.

Although many of the students who take the course never register with the Michigan High School Athletic Association as officials, they do eventually wind up in the coaching field; and the course provides them with the essential understanding needed of the rules of the major high school sports.

The training program is divided into two one-semester classes, each giving two hours of academic credit. During the fall, a class is offered in basketball and baseball officiating, and during the spring, football and track officiating are taught.

The sports are arranged in this order so that a working knowledge of their rules may be implanted just before the season gets under way. Thanks to this type of planning, the class is kept ahead of each of the major sport seasons.

The teaching plan allots two class periods a week to the lecture room and one period of actual practice. The lecture sessions are devoted to studies of the rules, quizzes on the rules and officiating procedures, and discussions of problems and game situations.

Additional practice opportunities are provided by the college intramural program and the scrimmages of local high school teams. During the basketball season, the class members officiate all the games in the city and the two church leagues.

Other events which furnish the class with practical experience include the annual Albion invitational high school track meet, the high school basketball clinic, and the 5-A cross-country run.

At last year's basketball clinic, more than 500 coaches, players, high school administrators, and officials saw members of the class officiate six scrimmage games between high school teams from the Albion area.

These annual clinics cover every

phase of the high school basketball program, thus offering something of value to everybody connected with the program. In addition to the scrimmages, the clinic offers technical demonstrations by several of the state's leading teams, and discussion groups on rules, scoring and timing, administration, and sportsmanship.

After securing experience from their work in the classroom and in practice games, the students interested in actual officiating are encouraged to register with the state association.

A recent M.H.S.A.A. bulletin revealed 26 Albion students on the list of registered basketball officials. Nearly as many are registered for football, and a number of students are also registered for baseball, track, and swimming.

Among the high school leagues in Michigan using Albion student officials are the Jackson County Leagues, Little C Conference, Land of Lakes League, and the Lenawee County League.

Many coaches notify Sprankle of the games for which officials are required, and the assignments are given to the students deemed capable. This year more than 300 basketball and nearly 100 football assignments were handled by Albion officials—a substantial increase over the previous high in 1947-48.

Charles E. Forsythe, director of the M.H.S.A.A., has commended the program because of the services it renders to schools plagued by a scarcity of trained officials.

Although other Michigan colleges, including Michigan State College and Central Michigan College, also offer programs for the training of officials, Forsythe declares that Albion has gone the farthest with the plan.

The effectiveness of the Albion program has been increased by a systematic checking of the work done by the students, and by assistance with the relations between schools and officials.

Sprankle, an official for 25 years himself, is aided in the program by Walter Sprandel, assistant professor of physical education, and Lou Black, a senior majoring in physical education.

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EFFICIENT space utilization has become a dominant factor in the design of gymnasiums. The modern school gym must not only meet the needs of physical education but must provide for after-school and community activities for both youths and adults.

The new school gym will tend to be larger than those built in the past, for several reasons:

1. Because of the new concept of their use as already explained.
2. Because of the enlarged school enrollment.
3. Because of the demand for basketball courts with large seating capacities.
4. Because of the increasing trend to require daily rather than weekly gym attendance for all pupils.

The architect and administrator must work hand in hand to make the best use of the space available within the budget.

The main gym today is used more diversely and by larger groups of persons than any other area in the new school building. The architect must mesh and balance the various demands by multi-use of spaces, by eliminating waste space, and by merging seldom-used areas with other similar areas.

To do this, the architect must know what type of space is required

By HAROLD R. SLEEPER

Space Utilization and Gym Seating

for the different activities, when these activities are scheduled, and how many people will use them. Programs will probably be formed around three basic uses:

1. Physical education.
2. Recreation, with spectators' seats.
3. Community requirements and activities.

Where the architect is given a coordinated picture of the program, he will be able to expedite the completion of the program for the benefit of all.

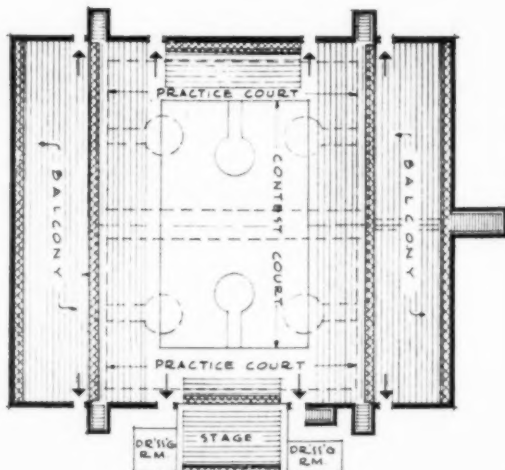
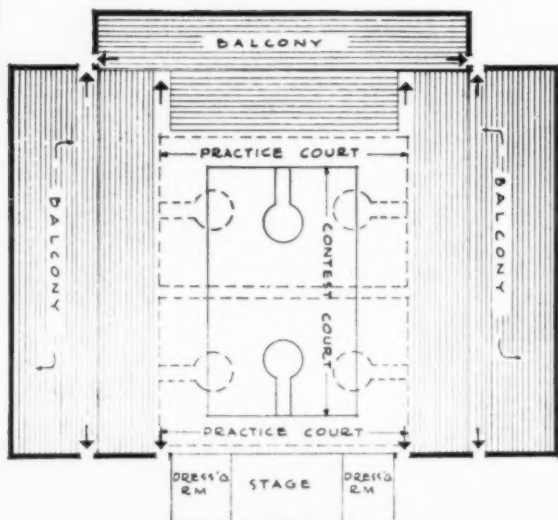
On this early analysis may depend the whole success of the project. The architects most likely to succeed are those who refuse to

draw a line until the program has "jelled." The primary fundamental assumptions which must be established before the program can be set up are:

1. Type of institution—(a) elementary school, (b) secondary school, (c) college, (d) other school.
2. School enrollment—boys and girls.
3. Group (or class) size—usually assumed as 30 pupils for elementary schools and 40 pupils for secondary schools. In colleges, this number may vary to a great extent.
4. Length of periods for physical education classes.
5. School day, i.e., number of hours per day that facilities will be available.

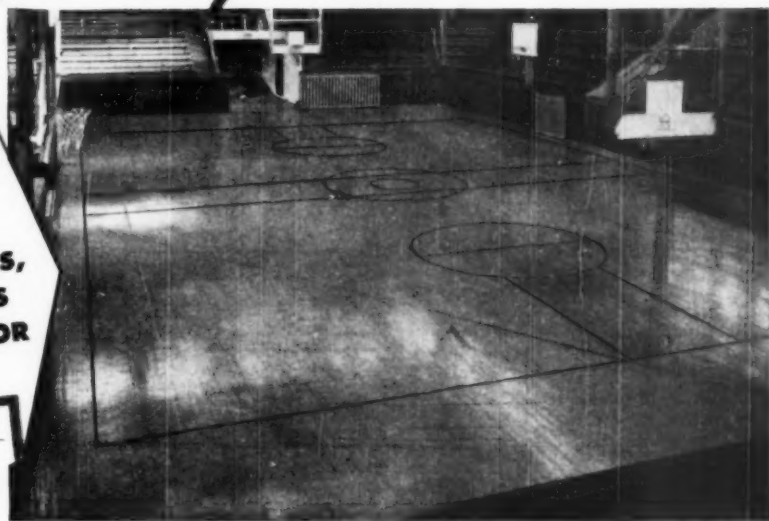
Category	Old Style	Modern	Saving (%)
TOTAL AREA	27,500	17,325	36.1
SEAT AREA	15,400	10,940	29.6
ACTIVITY AREA	12,100	6,385	47.2

Comparative Gymnasium Seating (Modern vs. Old Style): The floor plans below show the seating layout for a contest with old style fixed seats at 3.8 square feet per person (*left*) and the seating layout with modern foldable stands at 2.5 square feet per person (*right*). The substantial savings effected by modern seating is shown in the table on the left. Foldable gym stands, when closed, will leave from 40% to 88% of the seating space free for other uses. In the particular gym in *article*, foldable stands save 5,460 sq. feet.



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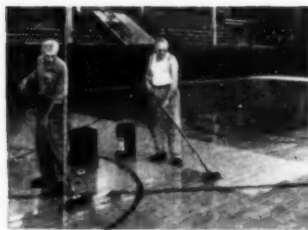
A floor finish has to be good to establish such a record. For nineteen years, Seal-O-San has been the one and only choice of maintenance men in this big and busy South Side High School, Fort Wayne, Indiana, with an annual enrollment of 2000 or more. Since 1931 the floor shown above has been used for every modern school activity including commencement exercises. Yet today, its beautiful non-glare surface gives no evidence of abuse . . . a real tribute to sound maintenance, to Seal-O-San care. Try Seal-O-San and you'll be amazed at the improvement in your floors. Write today for complete Seal-O-San facts.

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NAME

INSTITUTION

ADDRESS

CITY

STATE

available for physical education.

6. The school's or the state's requirements as to attendance of pupils for physical education.

7. Activities required, physical—physical education, athletic, community (adult, youth).

8. Activities required, non-physical—school, community (adult, youth).

9. Seating requirements for gym contests and for swimming—for school and for community.

10. Funds available to determine budget for cost of building.

11. Cost per cubic foot of building construction.

The following will illustrate a method of developing a program after the data for the previous items (1-11) have been determined.

1. Secondary school, located in area of maximum demand for seating capacity.

2. Enrollment—1200 students (600 boys and 600 girls).

3. Group (class) size—40 pupils.

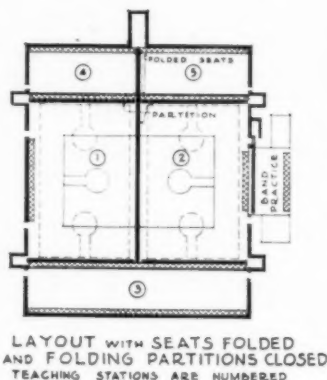
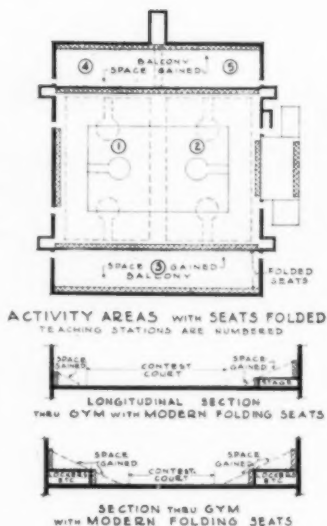
4. Length of period—50 minutes.

5. School day—6 hours (exclusive of assembly period).

6. Requirement of one hour per day for phys ed for each student.

7. Program of physical activities to be provided for and how used:

Activity	Req. for	Approx. Area Req. Sq. Ft.
(a) Games and Sports		
Basketball		
2 pract. courts	School	9,592
1 standard size contest court	School & Community	on pr. court
Badminton Court	School	on pr. court
Volleyball Court	School	on pr. court
Paddle Tennis Court	School	on pr. court
Wrestling, fencing		
2 mats, 1 strip	School	1,500
Boxing—2 rings	School	2,600
Table Tennis		
2 tables	School	420
Shuffleboard	School	570
Quoits	School	520
Swimming Pool, with instruct. space	School	6,000
(b) Other Athletic Activities		
Health classes	School	800
Remedial group	School	800
Rec. teaching, group play	School	1,536
Apparatus room	School	1,500
Athletic Services		
Team room	School	300
Equip. drying	School	200
Rest rooms	School	500
Lockers—boys and girls	School	3,300
Toilets, showers, drying	School	3,460
Phys. director's offices, shower and toilet	School	700
Coaches' office, shower, toilet	School	200



8. Non-physical activities and services:

Activity	Req. for	Req. Sq. Ft.
Stage with dress. rooms	School & Community	1,800
Social, folk dancing	School & Community	on pr. court
Band practice, glee club room	School & Community	on stage
Classroom for adult ed., 1	Community	800
Arts and crafts rooms, 2	Community	1,500
Foyer, halls, stairs, exits, toilets, storage		3,000
Services: storage, boiler, etc.		3,500

9. Seating requirements—the present demand for gym seats has been found to average 2.46 seats per student, on a national basis, with a maximum of 5.43. The demand varies geographically and is greatest in the Central States.

We are assuming that the school of our program is in an area where basketball is popular and is not only a school but a community activity. To meet the demands for seats is good business, as these seats are the one source of income for a gym and community center.

We assume that 3 seats per student should be provided or 1,200 x 3 = 3,600 gym seats for the school itself. This will allow for the above-average student interest because of the new building. In addition, due to the need for a community center for sporting events and stage entertainment, it is considered desirable to add 600 seats, or a total of 4,200.

Swimming is not as popular but would draw at least half of the student body for meets, so 600 seats are scheduled.

10. Budget—funds available for building, \$540,000 (without equipment and furnishings).

11. Cubic foot cost—assuming that building construction will cost 60¢ per cubic ft., 900,000 cubic ft. is maximum possible within the budget.

The main gym must serve many purposes and it is assumed that the following activities can be placed in this large main gym area. (These activities do not require special rooms devoted entirely to one use.)

1. Contest court—two or more practice courts. Check with number of teaching stations to determine whether two or more practice courts are required.

Space or courts for the following program items may be super-imposed on practice courts—badminton, volleyball, paddle tennis, wrestling, boxing, table tennis, shuffleboard, quoits, health class, remedial group, recreation teaching, play group, social dancing, seats for contest court.

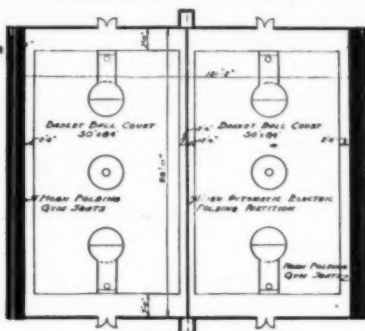
2. The following activities will require their own rooms—classroom for adult education, apparatus room, band practice (combined with stage), swimming pool and 600 seats, arts and crafts rooms (2), directors' office—coaches' office, toilets, showers, etc., services and storage.

With 1,200 students each to have one period per day in the gym, in classes of approximately 40, it is necessary to determine how many classes must be scheduled at one time and to devise ways of separating those classes into spaces with some privacy. The following formula applies:

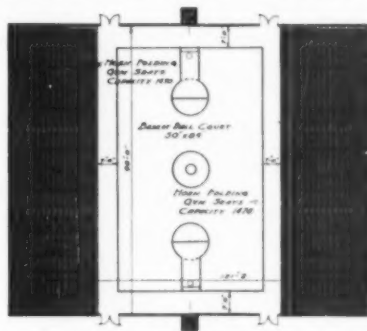
$$\text{No. of daily classes} = \frac{\text{Total enrollment}}{\text{Class size}}$$

(Concluded on page 22)

UTILIZE YOUR GYM SPACE WITH HORN



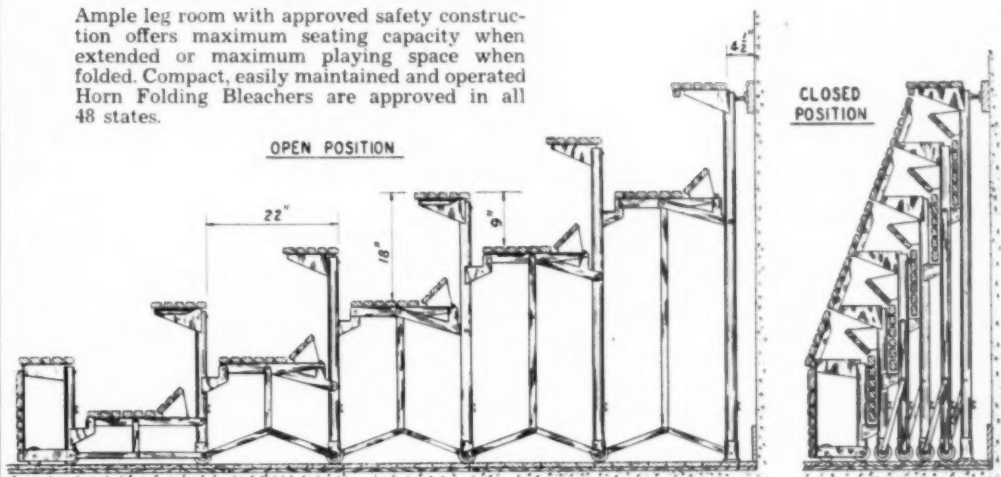
Two regulation Basketball courts separated by a Horn Automatic Electric Folding Partition. Horn Folding Bleachers in folded position.



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SPACE REQUIREMENTS

ROWS	FLOOR SPACE		**HEIGHT	ROWS	FLOOR SPACE		**HEIGHT
	IN USE	*CLOSED			IN USE	*CLOSED	
3	4 Ft. 9 In.	1 Ft. 8 3/4 In.	3 Ft. 0 In.	12	21 Ft. 3 In.	4 Ft. 3 1/8 In.	9 Ft. 9 In.
4	6 Ft. 7 In.	2 Ft. 0 1/8 In.	3 Ft. 9 In.	13	23 Ft. 1 In.	4 Ft. 6 1/2 In.	10 Ft. 6 In.
5	8 Ft. 5 In.	2 Ft. 3 1/2 In.	4 Ft. 6 In.	14	24 Ft. 11 In.	4 Ft. 9 5/8 In.	11 Ft. 3 In.
6	10 Ft. 3 In.	2 Ft. 6 7/8 In.	5 Ft. 3 In.	15	26 Ft. 9 In.	5 Ft. 1 1/4 In.	12 Ft. 0 In.
7	12 Ft. 1 In.	2 Ft. 10 1/4 In.	6 Ft. 0 In.	16	28 Ft. 7 In.	5 Ft. 4 5/8 In.	12 Ft. 9 In.
8	13 Ft. 11 In.	3 Ft. 1 5/8 In.	6 Ft. 9 In.	17	30 Ft. 5 In.	5 Ft. 8 In.	13 Ft. 6 In.
9	15 Ft. 9 In.	3 Ft. 5 In.	7 Ft. 6 In.	18	32 Ft. 3 In.	5 Ft. 11 3/8 In.	14 Ft. 3 In.
10	17 Ft. 7 In.	3 Ft. 8 3/4 In.	8 Ft. 3 In.	19	34 Ft. 1 In.	6 Ft. 2 3/4 In.	15 Ft. 0 In.
11	19 Ft. 5 In.	3 Ft. 11 3/4 In.	9 Ft. 0 In.	20	35 Ft. 11 In.	6 Ft. 6 1/8 In.	15 Ft. 9 In.

* Dimension includes 4 1/2 in. space between top seat and wall.

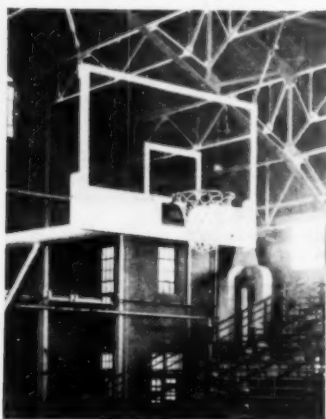
** Height in open position same as closed. For Bleachers higher than 20 Rows write for complete details and dimensions.

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As applied to the situation in question, the formula resolves as follows:

1,200

----- = 30 daily classes

40

The number of classes occurring at one time is worked out as follows:

30 daily classes

----- = 5 spaces

6 total daily periods
of one hour each

These spaces are properly called "teaching stations." Because of separation of boys and girls and of a variation in class sizes, this exact determination of teaching stations is seldom realized. The National Facilities Conference recommends that this figure be multiplied by a factor of 1.25 to be practical. Therefore, the number of teaching stations becomes 6.25 or 7.

Glancing again at the analysis of the program, we find that we are required to have the following separate special rooms which may each serve as one teaching station—apparatus room, swimming pool, one classroom for adult education (this may be used for one health class).

This is a total of three teaching stations, leaving four to be provided for in the main gym.

Two practice courts on the main gym floor will provide space for two stations. The other two stations may be provided by enlarging the main floor with three or four practice courts, or by providing usable balconies.

In order to preserve a large floor space for the auditorium and stage with 4,200 seats for the contest games, it is evident that every possible device for full space utilization must be used.

If old-type fixed seats are used, the usual allowance of 3.8 sq. ft. per seat must be made, or $4,200 \times 3.8 = 15,960$ sq. ft. not available for any other purpose.

If modern foldable gym stands are used, an allowance of 2.5 sq. ft. per seat is sufficient. This is 10,500 sq. ft. which shows a saving of 5,460 sq. ft. Foldable gym stands, when closed, will leave from 40% to 88% of the seating space free for other uses.

When a large seating capacity is required, it is advisable to place some of the seats in balconies so that the space under the balconies may be utilized for showers, toilets, offices, storage, and classrooms. In fact any activity may be housed here which does not require a high ceiling. When budgets are limited, balconies become essential.

THIS article and all the illustrations therein are reprinted from the excellent bulletin, "Modern Gymnasium Seating, A Dominant Factor in Efficient Space Utilization in Gymnasiums," prepared for the Gymnasium Seating Council by Harold R. Sleeper, F.A.I.A. Coaches may obtain a free copy by writing to the Gymnasium Seating Council (R. P. Dryer, Chairman), at 737 Guardian Building, Cleveland 14, Ohio. Ask for Bulletin No. 55—Fall 1949.

With modern foldable gym stands, the balcony space also becomes available for many activities (see drawing).

In this program, each balcony can be employed for a teaching station for such activities as wrestling, boxing, table tennis, etc., which may well be located off the main gym floor level. The space under the balconies will provide approximately 5,760 sq. ft. of usable area.

With two practice courts and two other teaching stations busy, the main gym offers little privacy and may be a bedlam unless divided. It is possible not only to divide the practice courts with a folding partition, but the two balconies may likewise be shut off from the practice courts. Balconies may also be divided by folding partitions.

Folding partitions are operated electrically by simply pressing a button (see drawing).

In this program, the balconies will yield two large stations or four smaller ones. One large station and two smaller ones are shown, making a total of one small station in excess of the requirements.

This extra space may be used as a spare space for special activities to allow for greater flexibility, or to relieve the number of activities assigned to the main gym floor.

Assuming the entire plant occupies 881,000 cubic feet, the estimated cost, at 60¢ per cubic foot, comes to \$528,600. This is under the budget of \$540,000. Without modern foldable gym stands, this program could not be encompassed within the budget. The old-type fixed seats would increase the cost of the main gym by over \$164,000 plus the extra cost of such seats, and would not permit the use of balconies for activities.

For a full comparative cost, the volume of the balconies should be added at a cost of \$33,780 or a total extra cost of \$197,780 if old-type fixed seats are used.

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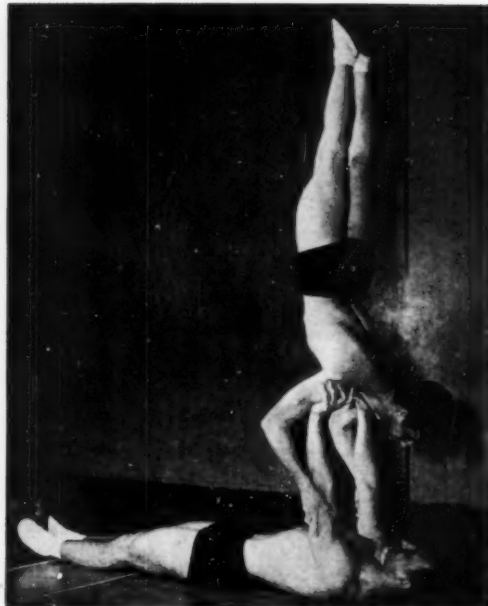
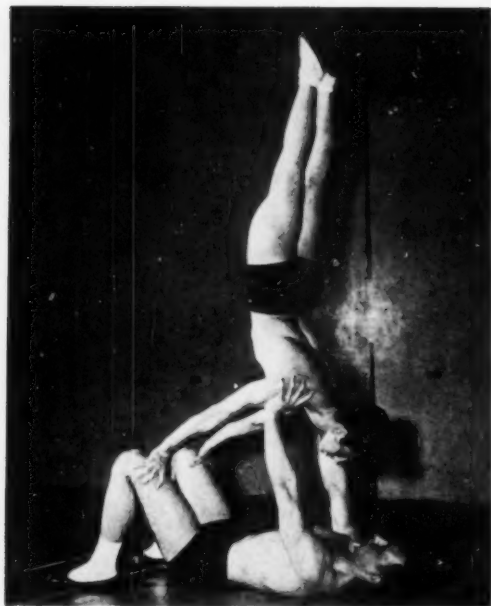
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Basic stunts: The shoulder stand (left) and the low arm-to-arm (right).

Photos by Ralph Zuccarelli

Doubles Balancing

DOUBLES balancing is a form of gymnastic activity in which two individuals work together to perform a variety of interesting stunts. In addition to developing strength, bodily control, and coordination, it is easy to teach to large groups and requires no equipment other than mats.

A single instructor may easily supervise a large group (about 30) of students. The best way to handle such a group is to divide them first into two groups according to weight—heavy and light. The next step is to pair off the individuals, matching the lightest man in the "light" group with the lightest man in the "heavy" group, and so on up to the heavier boys.

Cooperation between the two balancers is important. Therefore, if any two boys ask to work together, they should be allowed to do so. If possible, the same two boys should always work together, one always working on top and the other always working the bottom position.

Fundamentally, one stunt forms the basis of almost all advanced doubles (and triples) balancing.

By JACK MILLER

That stunt is the low hand-to-hand, in which the top mounter does a handstand on the bottom man's hands while the bottom man lies on his back.

But, in order to get the balancers accustomed to working with each other and to give them the feel of the thing, it is best to start with a few simpler stunts which don't require as much strength and skill. Two such stunts are the shoulder stand and the arm-to-arm.

The shoulder stand is an easy-to-learn stunt that teaches the importance of working together and the necessity of good form.

1. The bottom man lies on his back and brings his feet close to his body, thus raising his knees. Then he places his arms in the air perpendicular to his body, hands toward the ceiling.

2. The top mounter approaches the bottom man from the front and steps between his legs. Bending forward, the top mounter places his shoulders in the bottom man's up-

raised hands and holds the bottom man's upraised knees with his hands. The bottom man grasps the top mounter's shoulders by placing his thumbs in the armpits and spreading his fingers over the deltoids.

3. From this position, the top mounter kicks off. Most of his weight is shifted onto the bottom man's arms. He uses his grip on the bottom man's knees to aid him in holding his position.

4. The top mounter should have a slight arch in his back, head raised, knees locked, toes pointed, and feet directly over his shoulders. Both men should keep their arms straight. Remaining rigid, the top mounter should allow the bottom man to balance him, just as a person balances a broom stick on the palm of his hand.

5. The bottom man should lock his arms—but without tension. It is possible to lock, without tensing, all the muscles. By keeping his elbows locked, the bottom man takes the weight off the muscles and puts it on the bones, which can take it much more easily.

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Going up into high arm-to-arm (above), and completed stunt (below). In preparatory move, top mounter straddles bottom man as high up on chest as possible, with feet right below bottom man's arm-pits.



doing this stunt are: Form is vitally important; and by underbalancing (letting the weight of his body fall back slightly so that he supports more of it with his arms) the beginning balancer might facilitate the stunt and avoid falling over on his back, the ordinary fault of beginning balancers.

The arm-to-arm, while harder than the shoulder stand, is easy for the beginning balancer to learn.

1. The bottom man lies on his back, keeping his legs flat on the ground and raising his arms to the perpendicular position.

2. Approaching the bottom man from the front, the top mounter places one foot between his legs, and the other on the outside near the bottom man's hip.

3. Bending forward, he places his shoulders in the bottom man's hands and grasps the bottom man's arms on the triceps.

4. From this position, the top mounter kicks up. The bottom man should be prepared for the sudden impact of weight on his arms in order to keep his arms from bending or traveling back.

5. The top mounter, while in the arm-to-arm, should keep his back arched, toes pointed, feet directly over the shoulders, knees locked, and head held high. It is impossible to stress the importance of form too strongly.

6. The bottom man should keep his arms locked without tensing. Also, he should keep his knees down so that the top mounter will not land on them if he underbalances.

It is important for the top mounter to try to maintain a rigid position and to allow the bottom man to do most of the balancing.

Balancers can learn two variations of the shoulder stand. First is the switch over. In this stunt, the

balancers do a shoulder stand. Then the top mounter overbalances slightly (allowing his feet to move farther over his head).

At the proper moment, which can be found only by experimentation, he switches his hands, one at a time, from the bottom man's knees to the bottom man's arms. The bottom man lowers his knees—and the balancers are in the arm-to-arm balance.

The second variation is the **high arm-to-arm** balance. This requires more strength and ability than the low arm-to-arm. The two balancers stand facing each other. Extending their arms toward one another, they grasp, just as in the low arm-to-arm balance.

Jumping up, the top mounter straddles the bottom man's waist. The bottom man catches the rhythm of the stunt by bending at the waist just as the top mounter's legs straddle him. Then, straightening up, he heaves the top mounter to an overhead position. The top mounter must then press up—that is, he must, by sheer strength, straighten his body until he is in the balance position.

For dismounting, the top mounter comes down by underbalancing out of the position. Rhythm is important and can be learned only by practice.

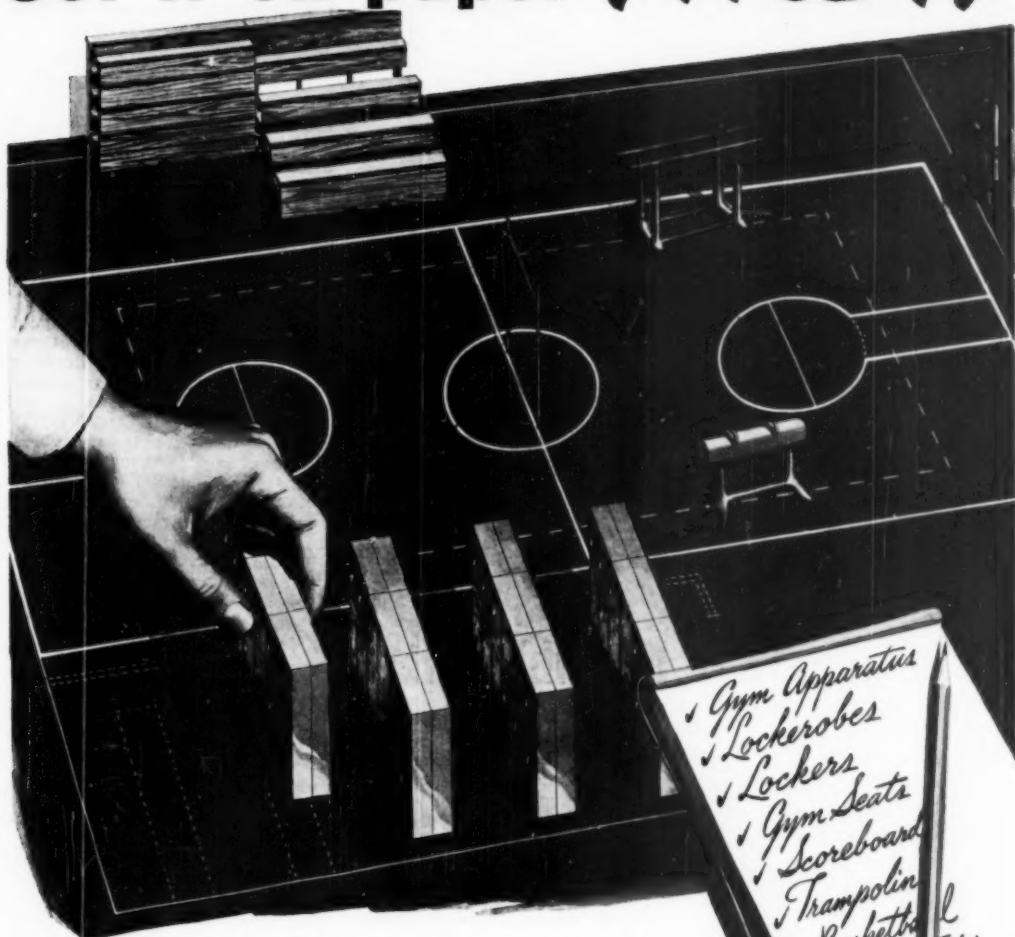
The **low hand-to-hand**, the basis for all advanced balancing, is hard to learn. No one can hope to pick it up in a day or a week or even a month. It takes plenty of hard work, but it is well worth it. Once the balancers have this stunt learned so well that they can hit it every time, they can begin dreaming of those really great stunts they will be doing some day.

1. The bottom man lies on his (Concluded on page 55)

Below: Low hand-to-hand (left) and low-low (right). In second stunt, bottom man gets support by keeping elbows on floor.



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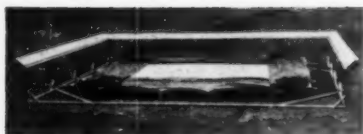
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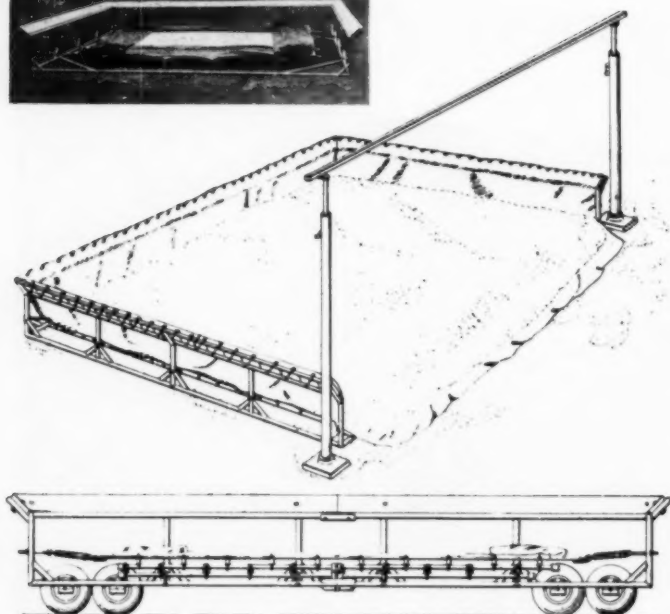
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Picture at top shows early development of pit (as yet wheel-less) with flaps let down over base canvas. Drawings show a perspective view of pit ready for use (top) and a side elevational view indicating the placement of wheels.



A Portable-Collapsible Pit

WHO says that a good bull session over lunch never produces any sound ideas? It certainly did in my case when Paul Deller, head track coach at Klamath Union High School, said jokingly:

"Why not make a pole vault or high jump pit portable so that it could be moved around?"

We all had a good laugh, but the idea stuck in my mind and I said to myself, "Well, why not?"

Picture in your mind the feverish preparations for a track meet. Sites are picked for the javelin, shot, and discus events, but the pole vault, high jump, and broad jump events must always remain in their usual places. And since these locations are rarely planned advantageously, the events have two strikes against them to begin with.

Wouldn't a portable vaulting or jumping pit facilitate the preparation for a meet? Wouldn't it also eliminate runway care, which is always hounding the coach or groundskeeper? And since the best approaches could be picked whether it be turf, dirt, or even a basketball court, wouldn't it make for better competition and a more attractive meet?

With all these thoughts in mind, I began working on a drawing of such a pit and talking with other people about my idea. The rule book at that time indicated that a vaulting pit should be 14' by 12'. (The rules now stipulate that it should be 16' by 12'.) Why not stick to the idea of the conventional pit, but make this one a "pit" above the ground?

I finally concluded that it should be constructed of some type of framework and have a container for shavings just as the conventional pit does. Since cost limited the use of various types of metal tubing, I finally decided that electrical conduit (steel) 1 1/4" in thickness would do the trick.

A friend of mine, Ray Owens, and I started sawing and welding a framework for the portable pit. It took about a month, working in spare time, to complete the framework and transport it to a tent maker to have the canvas pocket made.

By ROBERT W. HENDERSHOTT
Klamath Union H.S., Klamath Falls, Ore.

It was during this transportation that we decided that the framework should be made to collapse so that it could fit very readily into the back of a pick-up truck.

After the canvas pocket was completed, we moved the pit to our high school athletic field and started experimenting with it. The pit proved so heavy when filled with shavings that it took an entire track team to pick it up and move it.

We then decided that it should have wheels so that two or three men could move it. The drawing shows how wheels were finally adapted to the steel frame.

The wheels (wheelbarrow style) are bolted directly to the frame and slide back and forth on the axles so that they overlap one another when the pit is folded. The axles are placed on the frame so that they are staggered when the pit is folded.

The base canvas is secured to the frame by pull springs and eye bolts. These bolts have wing nuts which permit the tension on the springs to be increased or decreased as desired.

After the base canvas is secured, the side walls are ready for assembly. The side walls are made in two sections so that the shavings from the pit can be used to pad the edges on which an athlete may land.

The pit may be assembled by one person in from one and a half to two hours. After it is completely assembled and ready for use, one person can readily move it from one place to another with little effort.

It does not have to be taken completely apart again to fold or store it. All you have to do is empty out the shavings and unlatch the side walls. The frame can then be collapsed with the base canvas secured to it.

This pit has been used successfully here at Klamath Falls during the track seasons of 1947 and 1948.

The one and only model of the pit is now owned by the University of Oregon and Bill Bowerman, head track coach, plans to use it during the basketball season for half-time exhibitions and for a lot of indoor work.

It is a simple matter to ready this pit for a meet. It merely entails moving the device to the desired location, chopping out a chunk of turf, and setting in the planting box for the pole. Absolutely dry shavings must be used in the pit.

ACHIEVE A BIGGER GATE

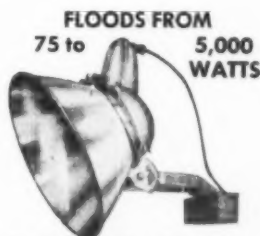
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Organization for Trampolining

SINCE the values of trampolining and the actual techniques of the event have been amply covered in excellent articles and books, the author believes that an article on the organization of the activity may serve to round out the picture and assist in the administration of the event.

Until September 1948, the U. of Nebraska trampolines were kept in an open area comparable to the average gymnasium. As trampolining came into its own, the activity was moved to a room designated as the "trampoline room."

This room is well lighted and is heated in the winter. Ventilation is controlled and, due to the fact that the room is located on the east side of the building in a semi-basement area, it is very comfortable in the summer.

The room measures 34-ft.-3 in length, 20-ft.-8 in width, and 15-ft.-7 in height. The one entrance is located at the northwest corner of the room. There are three small windows above the entrance door, and six 2½ x 6 ft. windows along the east side. The other end and side of the room have no breaks from floor to ceiling.

A blackboard has been installed on one end wall and has proved extremely useful in illustrating various body positions during the execution of an exercise. Along the wall close to the door are stall bars for body conditioning, together with

By CHARLES E. MILLER

Acting Physical Director, U. of Nebraska

suggested exercises (posted on the wall behind the bars).

Also posted are a number of hints on practice and safety, and two instruction books on the use of the apparatus. All this material is removable.

A suspended lunger has been installed near the middle of the room to one side. The rope is operated by one individual standing on the floor at the near side of the trampoline, while the pulleys are secured to the concrete beams above.

The suspended lunger belt, as may be noted in the illustration, is slightly off center in relation to the length of the trampoline bed. This is deliberately done, as it assists performers in forward and backward turnovers by bringing them forward or backward after they leave the bed from a position midway between the center and end.

A steel girder projects about 14 in. out from the east wall (below the windows) and runs the entire length of the wall. It is used as a "bleacher" by class members not performing or "spotting." At other times, two spotters are placed on the girder for each trampoline.

Thanks to careful fundamental instruction and constant emphasis

on safety, there have been no accidents in the trampoline room.

Another good safety feature is provided by a 5 x 7 ft. mat secured to the west wall at the end of the trampoline nearest the southwest corner.

After considerable observation and experimentation, the author believes that in the interests of safety every trampoline should have protective padding at the ends. Along the sides, this padding is optional.

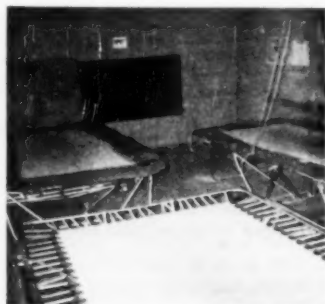
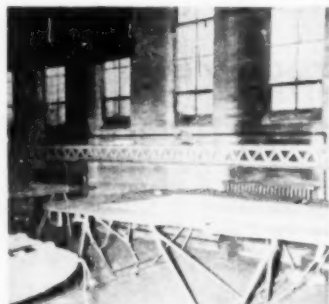
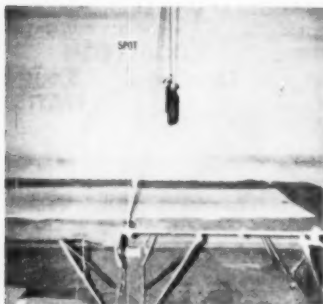
By placing an alert student at each side of the apparatus, the performer can always be kept under control. Even where protective end pads are used, however, it is still necessary to place spotters at the ends.

During the past two years, the trampoline has been used in a variety of ways at the U. of Nebraska. The following list will give you an idea of the possibilities of the apparatus.

1. *Class instruction.* This includes practice and free time use for a large number of individuals ranging from rank beginners to the advanced student in beginning, intermediate, and advanced classes in physical education.

2. *Exhibitions.* Includes exhibitions of advanced students, usually varsity gymnastic team members, for civic groups and others. Exhibitions have been presented to University groups between halves of

(Continued on page 57)



Left: Suspended lunger; pulleys are secured in concrete beam above and rope is operated by one person standing on floor at near side of tramp. Center: Windows are located on east side of room with steel girder directly below projecting out about 14" from wall. Girder is used as bleacher seat by non-

performers. At other times, two spotters are placed on girder for each tramp. Right: View showing three tramps, south wall, and part of north wall. Tramp in foreground has no protective pads at ends or on sides. Author believes tramp should have protective padding at ends, with padding on sides optional.

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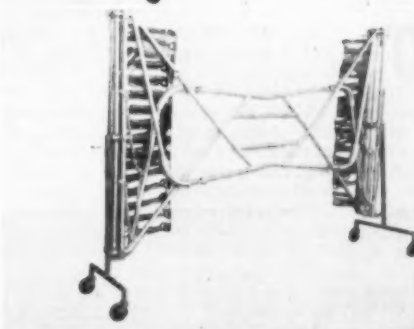
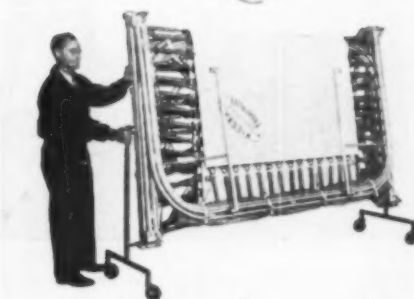
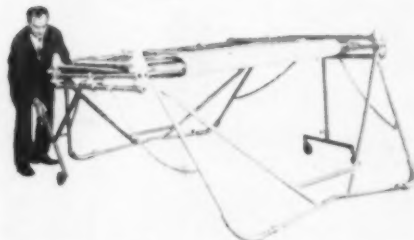
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Sanitation of the Facilities

By C. O. JACKSON
Physical Education, U. of Illinois

the entire school by the emphasis he places on the proper use of school property. Where he insists on athletes removing dirt from their cleats and spikes by using a brush or wire scratchers before entering the building, or, better still, removing both dirt and shoes, much of the difficulty in keeping the locker and dressing rooms clean will disappear.

He should arrange for suitable coco matting at the entrance of the locker room, for removing dust and dirt particles from the shoes of those coming in to dress for physical education classes.

The coach has the great responsibility of teaching the proper health practices involved in physical education and athletics. This should surely include emphasis on the desirability of frequent, cleansing baths, and the wearing of clean exercise clothing. Those locker room smells are as much a reflection on the coach as on the participants, since they are at best merely typical, lazy adolescents taking the "easy way out" unless urged and taught to do otherwise.

The custodian and his staff can make it possible to attain the highest goals of sanitation in all areas of the school by the efficiency and diligence with which they do their work.

The writer will always remember a janitor of his acquaintance in a small school. This man not only took care of the operation of the swimming pool, the gymnasium, shower and locker rooms, the band room, the grounds and several corridors, but, in addition, ran the school "laundry" where all washable athletic equipment and towels for the teams and the physical education classes were cleaned daily.

A few years ago this man was asked how he could get so much done. He replied, "I like my job, and

ONE of the most pressing problems in the maintenance of the athlete's health is the sanitation of the athletic facilities. Few plants can boast a clean bill of health.

Many locker rooms smell to high heaven from the dirty, sweat-soaked clothing stored there; most floors are not cleaned often enough to get the mud and dirt out of the way before the next batch arrives via the cleats and shoes of the participants; and some shower rooms have drains so choked with paper and dirt that the floor will show an inch or two of water before the day is over.

When you go into a school with

a swimming pool, you sometimes find the water turbid and cloudy, with a thin film of oil on the surface and with the non-participants lounging or walking around the sides, fully dressed and wearing street shoes.

Since such conditions are by no means uncommon, some practical suggestions for improving them certainly are in order. By exercising a little initiative and ingenuity, and by "selling" the administration and the custodial staff on full cooperation, great strides can often be made.

The coach can set the pattern for



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I like kids. Besides, there's a lot of time between six o'clock in the morning and six in the evening, and I like to be busy."

It was at this man's insistence that the school board purchased a washing machine, and they have never regretted it. While he is cleaning various parts of the building, a "batch" is often in the machine getting a good sudsing! No doubt such "jewels" are few and far between, but there are still some to be found in an occasional school.

In some cases, what appears to be slovenly "housekeeping" on the part of the custodian, may actually be the result of such an overload that the individual or crew cannot possibly do an adequate job in every area of the school. Perhaps some improvement can be made even here, if a determined effort is made to cut down on the amount of dirt, dust, papers, and general debris so often found on the floor of the locker and dressing rooms.

Of course, in addition to educating the students to their responsibility for good "housekeeping," suitable refuse containers should be provided in sufficient quantities and at strategic locations. If this does not improve the situation, additional custodial service should be secured by persuading the school board to add another man to the crew.

When the coach and the custodian get along well with one another, when they have learned to respect each other, and when they are also actively cooperating for the best interests of the school and all pupils, many irritating problems either vanish or never arise. It would appear, then, that basically, the secret of maintaining proper health and sanitary conditions is, first, to be concerned about the matter; second, to secure the whole-hearted cooperation of the students using these areas; and, third, to secure complete cooperation and adequate help from the custodial staff.

LOCKER ROOMS

Most locker rooms are below ground level; and in some of the older buildings, they actually are converted from abandoned storage or coal rooms. In many instances, both the lighting and the ventilation are poor. Perhaps the first thing to do, is to check for dark spots and shadows, and also to see what needs to be done in the way of improved ventilation.

It is assumed that the amount of light can be and probably should be below the standard for class rooms, but extra lighting is usually desirable in order to eliminate a great many dark areas around the lower half of the lockers. Sometimes this can be done by re-arranging the lockers, but this may be a difficult task if the lockers are already bolted together and fastened to the floor. It may prove simpler to add more lights.

The locker rooms should be kept clean by using approved methods, such as wet mopping with hot water and soap, plus an antiseptic, at least once a week, and sweeping or dry mopping every day, or oftener.

The frequency and type of cleaning will be determined by the number of participants using this area, the weather and ground conditions outside, and how efficiently the dirt and dust is removed from shoes before the students enter the building. In older buildings, especially if overcrowded, it may be desirable to wet mop every day or oftener.

That stale odor of dirty, sweaty clothes can only be eliminated by not permitting such materials to accumulate in the lockers. Adequate hooks for hanging the wearing apparel will help, and a well-ventilated locker room, especially if this includes warm air circulating from the bottom to the top of the lockers, will aid in the drying problem. However, there is no adequate solution for the odor or the dirt, except frequent cleaning of the clothing.

Each coach or instructor should determine how often the exercise clothing should be laundered, usually depending on the activity and the degree of exertion involved, and then devise a plan for carrying this out.

GYM OUTFITS

Where local facilities permit laundering to be done at the school, and soiled clothing exchanged for clean outfits, the problem is completely solved. But when Junior must take his gym outfit or his personal athletic equipment home at frequent intervals for washing or laundering there, the problem becomes most difficult.

One of the best solutions for such a situation, is to persuade the students to buy two identical outfits, or to issue two sets of personal equipment to the athletes, so that one can be at home or at the laundry, while the other is in use at school.

It will still be necessary to indoctrinate your classes and your athletes to the point where you secure some degree of cooperation. Frequent locker inspections, checks on the cleanliness of the wearing apparel, and admonitions for certain individuals may be necessary. Announcements should be made in classes and on the bulletin board when clean outfits are to be required next, and an educational program carried on to help each student understand and appreciate the value of cooperating.

Under no circumstances should the students or athletes be encouraged or permitted to wear their personal equipment under the showers once a week or oftener, on the stupid pretence that they are washing their clothing.

Such a practice, while rather common, never has accomplished the purpose for which it was intended.

"Tattle-tale gray" is quite apparent in any light colored fabric, and no outfit washed in such a manner ever looks or is clean. Furthermore, there is nearly always enough water and moisture left in the clothes to rust the lockers.

At least twice a school year, if not oftener, each locker should be opened and wiped out with a wet sponge or cloth containing an approved disinfectant. Perhaps the most important result of this plan is that pieces of clothing or equipment which have been left or forgotten in the lockers, may be removed and either destroyed or laundered for distribution to those who have lost clothing or cannot afford to buy any.

SHOWER ROOMS

One of the adjuncts to good health is cleanliness, and the school can and should provide sufficient shower facilities, with plenty of warm water, liquid soap, and clean towels.

This latter service can be handled either as part of the educational program without charge, or on a small annual fee basis. Regardless of how it is financed, a towel service encourages students to practice health habits which may endure for a lifetime. Every school really concerned about building desirable habits and attitudes in health has such a service.

In many small schools, and in most of the older buildings, the shower room is often one corner or one side of the locker and dressing room. Much of the debris and dirt so often found in the area where students change their clothes is readily tracked into the shower space. And water is carried and tracked back into the dressing and locker room to add further to safety hazards and to the general disorder and mess there. When the class has dressed and left, the floor often needs a good cleaning before the next one arrives, but time seldom permits this, even when it might be desirable.

It may be possible to isolate the shower room either by building a wall around it, i.e., putting it into a separate part of the building, with a curtained door, or by hanging canvas shower curtains around the shower heads. The latter, of course, is only a make-shift.

All a person has to do to realize the importance of keeping water and steam confined, as far as possible, to one area, and not spread over the entire physical education facility, is to pay a visit to the locker room during or after showers.

Part of the answer may be found in the use of gang showers, controlled by a responsible squad leader, a locker room attendant, or the coach himself. Where this is not possible, it may be even better to educate all the participants on how to bathe, what water temperature to use, and the individual's responsibility for shutting off a shower when he has completed his showering. It is assumed that



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metal soap dispensers and liquid soap will be provided by the school.

The boys should never be permitted to use the shower as an instrument for playing practical jokes. Instead of the cascade of ice cold water they intend spraying on the "victim," they sometimes turn the handle the wrong way, and the individual may be partially scalded before he can get out.

The coach may need to do some "educating" here also, and perhaps should spend some time early in the year between classes, and after practice, supervising and checking on this and similar matters.

To keep water from being tracked into the locker or dressing room, the following technique is recommended. First, participants should be educated and encouraged to remove much of the excess water from their bodies by following the age-old custom of the Greeks and Romans, of "scrapping" it off with their hands. Second, some used towels should be spread on the floor, immediately outside the shower area, and the individuals required to stand there while they finish their drying with clean towels, available at that point. When they finally leave for their lockers and their clothes, they are dry from head to foot, and the wet tracks all over the locker room floor just never appear.

It may be necessary to hose the shower room floor daily and to scrub it with hot water and soap at least once a week, or oftener, depending on the number of persons using the showers. The floor should, of course, be equipped with sufficient drains, each one containing a suitable screen and catch box to keep lint, hair, rings, and the like from entering the storm sewers. The screens should be removed and cleaned at regular intervals.

DRYING ROOM

Most of the newer schools have a special room where athletic wearing apparel and shoes are hung after use. This involves either forced ventilation by means of fans, plus extra heat, or, in some instances, merely a natural flow of air from open ventilators or windows. Such a room should be well-lighted and should have racks and hangers for spreading out the clothing so it will dry quickly.

While the use of a drying room is considered good practice, it must not be assumed that it takes the place of washing, laundering, or dry-cleaning of soiled equipment. Unfortunately, some schools still believe that it does, and much of the wearing apparel is not cleaned during the entire school year or season.

Where direct sunlight can reach this area, the problem of mold and mildew never appears. Unfortunately, very few schools are constructed so this is possible. It may be necessary, therefore, to expose clothing and shoes to the sunlight in some other fashion.

The modern way of doing this, and

a most effective way, too, is to install some of the many types of ultraviolet or cold cathode lamps at frequent intervals throughout such a drying room. The fungi causing mold and mildew can be controlled by such methods, and the expense, once the lamps have been installed, is very small.

If you do not have a drying room, but you do have a large equipment room, or your locker and dressing room is more than adequate, it may be possible to build such a drying room along one side at relatively little expense. In most schools a heat tunnel or part of a storage room may be remodeled to serve the same purpose.

THE POOL

Although most high schools have some sort of gym, only a small number also have swimming pools. However, since most of the newer buildings do have such facilities, and since some of the older ones are being remodeled to add a pool, perhaps a few statements about keeping such an area in good sanitary condition may be in order.

The first requisite, of course, is a good filtration and circulating system, a good vacuum or suction cleaner, and an approved method of chlorinating the water. When such equipment is in good working order, and a trained person (often the coach) superintends its operation, the mechanical operation of the pool is well taken care of.

As most pool operators and swimming instructors know, however,

there is a second requisite, namely the number of individuals using the pool, the bodily cleanliness of those people, and their sanitary habits while in the room or in the water.

As was mentioned previously, the coach or the instructor has the responsibility for inculcating acceptable health habits in the participant and class members. This becomes tremendously important in relation to proper use of the swimming pool.

If each individual is taught to take an adequate cleansing shower with warm water and soap, to wear a rubber cap to keep hair, dandruff, and oil from getting into the water, and to empty the bladder before leaving the locker room, the water will remain clean, bacteriologically speaking, for a much longer time.

Some bathing caps appear to "steal" or liberate chlorine, so frequent tests should be made to see that the degree of concentration in the water is high enough at all times. Needless to say, the chemistry department, the city water department, or the state health department should make regular checks on the chlorine and bacteriological condition of the water.

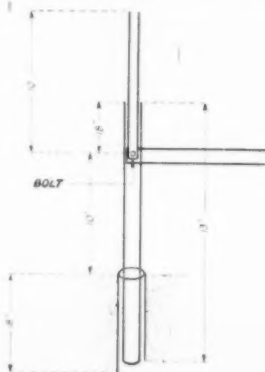
When swimmers are also taught to expectorate only in the proper receptacles or in the scum gutters, when the runway around the pool is wiped up frequently, and when nobody but swimmers are permitted to walk around the pool, problems involving sanitation just do not exist. But, as is always the case when working with human beings, there must be "eternal

(Continued on page 48)

DEMOUNTABLE GOAL POSTS by Carl M. Peterson

COACHES who are looking for some low-priced, easily handled and stored, demountable goal posts will find the answer in the accompanying sketch.

Here is a simple, home-made device constructed of piping, which can be put up and taken down by one man equipped only with a wrench and step-ladder. What's



more, it uses no threads on the pipes!—a result of years of experimenting with unsatisfactory threaded arrangements.

The bill of goods follows:

- 2 pieces pipe 18" long and 3" in diameter set in concrete.
- 2 pieces pipe 10' long.
- 2 pieces pipe 13' long.
- 1 piece pipe 18'6" long.
- 2 bolts (of length needed).

You may use any desired size pipe for the ground socket; the next smaller sizes will just slip into the one below.

The single bolt through either upright holds the crossbar into place at the back. This bolt also holds the last upright section, which drops down on it inside the main upright.

A touch of school spirit may be added by painting the posts in the school colors with alternate two-foot stripes. The writer will be glad to answer any letters on any points not clear. He may be reached at 31 Main Street, Eatontown, N. J.

Coaching by Camera

By **STANDARD LAMBERT**, *Football Coach, Lamar College*

MOTION pictures have done more to make football coaching an exact science than any innovation in the recent history of the game. By enabling the coach to minutely analyze his players under actual fire, they have taken the guesswork out of coaching.

From the players' standpoint, the motion picture is a dream come true. As the poet, Robert Burns, put it: "O, wad some Pow'r the giftie gie us to see oursels as ithers see us!"

Our objective, however, is not to "sell" a commodity already accepted by the coaching profession, but to offer suggestions that will enable those already using it to obtain the maximum results from their investment.

Just as coaches differ on hundreds of little technical details, so do they differ in what they want to film. This article will describe the camera techniques employed at Lamar College and the reasoning behind these ideas, as well as the basic equipment used.

The first thing to remember is not cut corners too closely in the use of film. Rigid practice of economy may rob you of many of the potential benefits of the pictures. Don't wait until the ball is snapped to start shooting, and don't stop soon as the ball is dead. Shooting a few feet before the snap and after the whistle often provides the most valuable information on the reel.

Another thing: Don't try to save film by speeding up the picture. The most effective speed for night games is probably 24 frames per second, while day games can easily go 32 frames.

If the field is exceptionally well floodlighted, it might also be possible to shoot 32 frames at night. It is much better to film half a game at the proper speed and with sufficient footage before the snap and after the whistle, than it is to film the whole game skimpily.

Saving 15% of the film while losing 40% of its potential value

doesn't make sense. A little experimenting and consultation with the coach will solve this problem for the inexperienced cameraman.

When shooting any play from scrimmage, we tell our cameraman to get a shot of the players coming out of the huddle and then another as the snap numbers are being called immediately prior to the snap.

The cameraman should, by all means, shoot enough film here (without being extravagant) to allow the ultimate viewers to acclimate themselves to each new situation and to check the defense and any other points of value.

If any player is spread too far from the main body, the cameraman should be sure to get a shot showing his exact location. However, he should not follow a man in motion out so far as to exclude the rest of the players. There is nothing quite so exasperating as being able to locate only nine or ten offensive men, and to wonder where the others are and what they are doing.

KEEP AHEAD OF ACTION

Frequently, the cameraman quits shooting too soon after the ball is dead. A brief swoop ahead of the downed spot often will reveal valuable coaching information.

If the play develops into a run, the most obvious procedure is to follow the ball-carrier as closely as possible. The location of the carrier is important here. The camera should be trained as far in the direction he is going as possible. Keep in mind that the area behind the ball-carrier is not nearly so valuable as what is ahead of him.

What to shoot on a pass play depends on the coach's desire. The common practice is to follow the ball all the way. However, this has the disadvantage of excluding the greater number of players from the picture part of the time. The shot will show

the pass protection and the passer, but that is about all.

If the coach is more interested in pass patterns and pass defense than in pass protection and pass rushing, he should instruct his cameraman to turn his view-finder off the ball and to train it down field as soon as he is sure the play is a pass. Of course, a combination of these two extremes may be employed.

The punt is filmed in the same manner as the pass. This, too, depends on the coach's wants. When his team is kicking, he probably will be interested more in the protection for the kicker and the opponents' charge than in the coverage of the kick.

When the opposition is kicking, however, it is entirely possible that he will be more interested in how his blockers are forming for the return than in how his linemen are rushing.

The reader will note that in all this discussion, we have spoken in terms of a limited field of vision, thus indicating that we distinctly prefer the two-inch to the one-inch lens. The smaller lens (particularly at night) furnishes so little detail that we have just about discarded it entirely.

We now are definitely more interested in using the large lens and moving the camera than in using the smaller lens that covers the entire field.

When filming the kickoff, we instruct our cameraman to focus on our team all the time. When kicking, we want to see the mechanics of the kicker and how effectively we are covering. When receiving we are most interested in how our blockers are forming, how each is blocking, and the eventual success of the return.

To obtain the maximum results from the actual screening, it is very important that the coaching staff see the pictures two or three times before showing them to the squad. This enables the coach to spot the

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errors more readily and to reverse the film at the proper moments. Unless necessity dictates, it is unwise to enter the projection room with the squad unprepared.

It is also imperative to put the boys in the proper frame of mind. We insist on absolute privacy when showing movies for coaching purposes. Where outsiders are permitted, the coach cannot be as frank with the boys as he should be. The boys are prone to assume defensive face-saving attitudes, thus making effective criticism impossible.

By the same token, it is not wise at public showings to criticize the individual players. The purpose of the showing here is instruction and improvement rather than criticism and embarrassment. There is all the difference in the world in how a boy takes criticism privately and publicly.

Never permit the players to save face by laughing at their mistakes, as they tend to do when they are being kicked around too much. Impress them with the fact that the pictures are taken to show their mistakes for the purpose of correction.

In our efforts to maintain privacy, we have even considered showing the picture to one or two boys at a time. If time permitted, probably the most effective results could be obtained by individual showings following the progress of one or two players.

This would have to be done by appointment during free periods. You really could impress a boy by saying, "Bill, meet me in the projection room at 10 tomorrow and let's watch you play the game."

If a boy thought he was worth that much time, he would certainly react favorably to criticism. In strict privacy, some real coaching could be accomplished. At least it would be effective for the highly sensitive boy and for the player whose performance was falling below par.

PROPER EQUIPMENT

When one uses trade names in dealing with equipment, he is immediately suspected of commercializing. On the other hand if he speaks in general terms, he leaves his readers knowing little more than at the beginning. We have chosen the former course as the lesser of the evils. We still have nothing to sell. The following paragraphs merely describe the equipment which has given us excellent results.

We use a Bell & Howell 70 D. A. camera mounted on a B. & H. tripod. A tripod is essential for best results. Most people who are in a po-



NEW DAYLIGHT PROJECTION VIEWER

THIS new, revolutionary system for viewing football and other sport movies enables the coach to sit at his desk and study the film in broad daylight. Developed by the Eastman Kodak Co., the viewer holds a special 8 by 11½" daylight screen with a mirror behind it. The coach places the projector beside him within easy arm's reach and projects the image onto the mirror. The image is then reflected onto the daylight screen. By applying pressure on the remote reversing switch in his hand, the coach can reverse the projector at any point during the showing. The viewer folds into a handy carrying case only 12 by 21".

sition to know because they sell both, tell us that the Bolex H-16 is a better camera than the B. & H. But we had one out-of-town picture last year and three this year shot with a Bolex and the pictures were inferior.

All we want is results. We will admit readily, however, that Bolex's rapid threading feature is highly desirable.

The camera, however, is not nearly as important as the lens. The ultimate success or failure depends on quality lenses, so don't try to economize on this item. We are thoroughly sold on our Taylor-Hobson F-1.4 two-inch lens for most shooting. But the camera should also be equipped with a F-1.9 one-inch lens. The turret objectives for each lens are also highly desirable.

Insofar as projectors are concerned, we use the Bell & Howell Showmaster, Model 129. It is light enough to carry in the banquet circuit and is very easily dismantled and assembled. When shopping for a projector for coaching purposes, we suggest that you look for the following features:

1. A reverse gear.
2. A heat trap that will prevent the film from burning when projected at slow speed.
3. A clutch that disengages the motor and allows for manual operation of the picture frame by frame.
4. A 750-watt lamp.

Although it is possible to project pictures on most any white space,

the best results can be obtained with a beaded screen. At Lamar, we use a Radiant D. L. beaded screen.

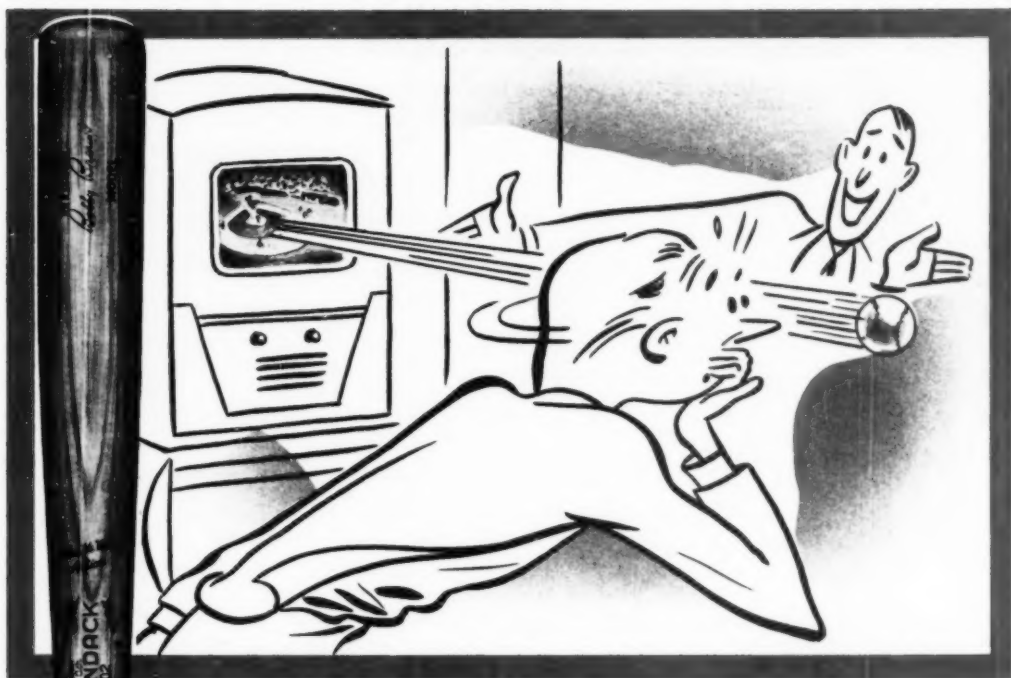
Another highly useful piece of equipment is an exposure meter. In fact it is essential for accurate shooting of night pictures on unfamiliar fields. The cameraman should arrive early enough to chart the field's light distribution before the game.

Our cameraman likes to chart it down the middle (most fields have the most light on the sides) in thirds. He makes his first reading in the area from the end zone to the 30, the second between the 30's, and the last one from the 30 to the other goal post.

With this information, he can, if the light is variable, adjust his shutters to admit the proper amount of light for clear shooting. Charting the amount of light laterally on the field does not make so much difference because he can't do anything about it anyway.

He should come to the field armed with a camera ready to shoot pictures. It should be oiled and loaded with film. We have tried shooting from a crow's-nest located on a sideline light pole and also from the press box. We like the latter because the crow's-nest position is too close to get the best results, and the press box angle is more satisfactory.

We have obtained satisfactory results this year from Eastman Super XX negative film. It has a Weston (Concluded on page 51)



"HE SWINGS an ADIRONDACK"...

Yes, sir, when they swing ADIRONDACKS the sky's the limit!

In the major leagues, Adirondacks come through with a consistently powerful performance year in and year out.

In other leagues, all over the nation, coaches have discovered a new source of power at the plate... ADIRONDACK BATS. The explosive power of **Flexible Whip Action** inspires greater confidence in players as they face opposing pitchers.

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Second Growth Northern White Ash for bat timber... Carefully selected from our own timber tracts, it provides Adirondacks with a sensational straight grain wallop.

Being made from the finest timber, Adirondacks last longer. So Adirondacks are economical too, in that you'll have fewer split and broken bats.

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Ex-Coach says: PRESENT INCOME FAR EXCEEDS PAST INCOME

Ex-coach John H. Hower of Ashton, Idaho, gives credit for his present success to "Mutual Life's excellent training course." Mr. Hower, now a Field Underwriter with The Mutual Life, says:



"There are many former coaches in the life insurance profession. In talking with them, I've found that we all agree on two things: life insurance selling offers a wonderful future for the man with the necessary qualifications—and coaching seems to be an excellent background for this type of selling. In my first year in the business, my income far exceeded any income I might have made in coaching."

You may be "the man with the necessary qualifications" to fit you for a well-paying career in life insurance selling. You can take the first step toward finding out by sending for our free booklet which will help predetermine your aptitude. If you qualify, the Mutual Life manager nearest you will explain our on-the-job training program and the Mutual Life Compensation Plan—which provides service fees, liberal commissions and a retirement income at 65.

Perhaps the coupon below will open the door to success for you—as it has to so many ex-coaches.

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ADDRESS DEPT. 13

Name _____ Age _____

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St. Joseph's Stadium

(Continued from page 9)

the property, but it was not until the past year that definite planning shaped itself into swift action. The plan was an outgrowth of ideas presented by the faculty coaching staff, sports-minded citizens, superintendent of schools Merlin C. Wolfe, city manager Herman Crow, the Board of Education and the City Commission.

These groups conducted an extensive study of the ideas and called in Dr. Elmer Mitchell, Director of Physical Education at the University of Michigan, as consultant. He in turn conferred with the National Recreation Association.

When the planning committee felt that the idea was well formulated, it commissioned architect Robert V. Knox to draw up a sketch of the entire project. The committee then invited a cross-section of a hundred leading citizens to a meeting at St. Joseph's Whitcomb Hotel.

BOND ISSUE APPROVED

The president of the Board of Education unveiled the architect's drawing and the gathering studied and evaluated the plan. Response was so enthusiastic that a motion to turn the proposal for a \$170,000 bond issue over to the voters at a special election immediately met unanimous approval.

Members of the committee visited all of the luncheon clubs and other organizations in the city, showing the plans and explaining the project. Every group went on record as favoring the plan, and the *St. Joseph Herald Press* carried many articles lauding it.

The committee also mailed a copy of the architect's drawing to each registered voter, and on the day of the election called each voter and urged him to visit the polls. Marked success favored its efforts as both the bond issue and the 2-mil raise in taxation carried by more than two to one.

Even before the first phase is completed, plans are being made for a large annual invitational track and field meet. Many organizations are looking forward to open-air programs in the stadium throughout the summer months. As has been the policy of the public schools of St. Joseph, the parochial schools of the community will have complete use of all the facilities.

Published Last November—

Scientific Basketball

By HOWARD A. HOBSON
Head Coach of Basketball,
Yale University

Here is a systematic approach for the basketball coach, emphasizing the measurement of factors which contribute toward victory or defeat. This practical book substitutes guesswork with accurate evaluation of player and team performance. It gives specific, detailed information on how to scout one's own or opposing team, including individual players.

Part I shows how to scout, collect, evaluate, and utilize data. Part II provides a guide to the entire basketball coaching program, including a complete outline of fundamentals, the author's fast-break offense, and sound methods for meeting the host of problems confronting the coach.

Published 1949 250 pages
Illustrated 5½" x 8¼"

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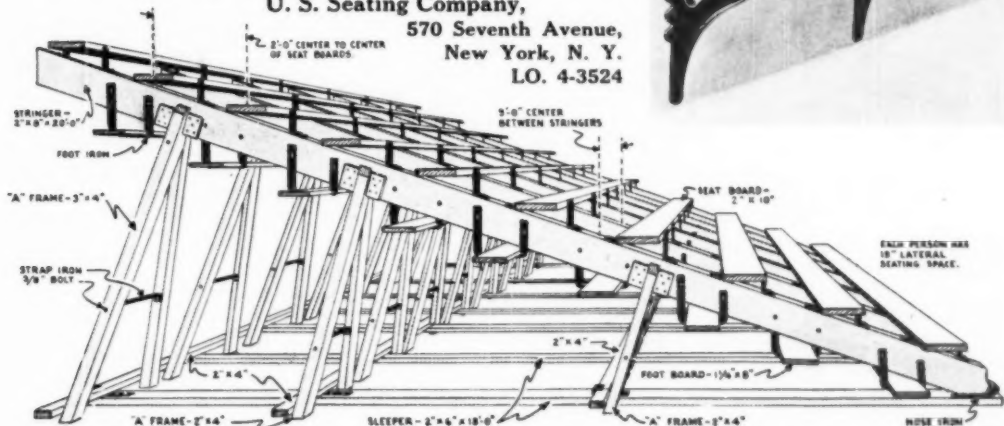
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19 50



Above is the award for boy and girl winners of your tournaments. It is a brassard 3½ inches in diameter with design and lettering embroidered in silk on a heavy felt base. The colors are red and gold on dark blue.

APPROVED BY THE
NATIONAL RIFLE ASSN.

1950

For Your School Rifle Program!

ALL INTRAMURAL SCHOLASTIC RIFLE TOURNAMENTS

- Here is a sure-fire hit for your rifle program—an intramural tournament run by you wholly within your school.
- There is no obligation—no red tape. All you do is fill out the coupon. We send the awards (one for each quarter-finalist, plus a special award for the winner), drawcharts and other helpful materials.
- If the number of students qualifying is so large that you wish to run your tournament in sections, indicate this and we will send awards for the winner of each section.
- If your school has no rifle program, Scholastic Coach will help you start one. We will send you all the necessary materials on facilities and club organization.



SCHOLASTIC INTRAMURAL RIFLE TOURNAMENTS, 7 East 12th St., New York, N. Y.

Please enroll my school and send the awards, drawchart and tournament instructions.

We will have a boys' tournament ☐; girls' tournament ☐ starting date _____


My name _____ Faculty position _____


Name of School _____

City _____ State _____

Enrollment of School: Boys ☐ Girls ☐

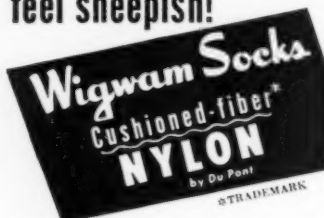

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are Shrink-treated


Wigwam NYLON Socks
will not shrink


Wear Wigwams...
Wigwams wear well



**100% nylon so
wool-like the sheep
feel sheepish!**




Sensational nylon yarn, of cushioned fiber, continues the treat-to-your-feet for which Wigwam WOOL socks are famous. Soft to walk on, easy to launder, warm as wool. Thousands of tiny air pockets provide space for absorbing moisture and insulate like a storm window. To put your feet first, try Wigwam NYLONS today — at leading sporting goods and department stores.




Wigwam Socks FOR EVERY SPORT
Hand Knit Hosiery Co., Sheboygan, Wis.
at leading sporting goods and department stores


Wigwam Socks
for every sport!


Wigwam WOOL Socks
are Shrink-treated


Wigwam NYLON Socks
will not shrink

Does Sports Floodlighting Pay?

(Continued from page 7)

Average profit before lights—\$300.
After installation—\$4,000.

Bloomington, Ill., submitted a statistical revenue chart which trenchantly revealed the miracles wrought by the lights:

Before Lights 4-5 games		After Lights 6 games	
41-42	\$702.10	46-47	\$7456.20
42-43	717.20	47-48	4799.76
43-44	1417.20	48-49	6335.83
44-46	1205.90	49-50	4219.30

The drop in receipts for 1949-50 is accounted for by the fact that two less games were played. "Although we had the poorest team in 20 years," the report states, "we drew fine crowds to our games. Our community is sold on our lighted field."

Main reasons for installing lights. "Increased revenue" naturally was the prime reason, followed by the desire to let the working public also see the games. Other reasons include:

To avoid the heat of noon games in the early fall (Phoenix, Ariz.; Tucson, Ariz.; and Brigham City, Utah).

To serve the community's recreational and spectator needs.

For night baseball.

Easier to play at night and does not disrupt rest of school program.

To avoid competition with local high schools and colleges.

War memorial.

How were funds obtained. As you'd expect, this question produced the most variegated answers. Chief among these were "popular subscription," "bond issues," "athletic funds," and "board of education." Others included:

Association of business men.

Endowment fund.

Booster club.

Taxes and regular school funds.

School district and village donated part and sold warrants to individuals.

Alumni fund, surplus appropriations, reserve from football revenue, a loan amortized over a six-year period.

District funds.

State funds and football receipts.

Donations from city and county clubs, with athletic department paying final \$5,000.

By selling stock. The V.F.W. lent the land and put up the lights.

Lions' club underwrote plan, paid for by revenue bonds.

Local private loans.

Half from the school board, half

from the high school's general fund.

Most funds raised by a car raffle. Service organizations and free labor.

Opponents having their own lights. Judging by the returns, it is only a question of time before every school will have its own floodlighted field. Fifteen of the schools reported that every team on their schedule has its own night plant, eight others reported "every school but one," and most of the remaining schools indicated that more than half of their opponents have their own lights. Only eight schools reported that none or only one of their opponents have lighted fields.

Game night. This was no contest—practically every school plays their football games on Friday nights.

Other uses of field. With the exception of just a handful of schools, every school reported that the field is used for other purposes, with baseball and softball leading the parade. Other uses include:

Band or drum corps competitions.

Summer recreational program.

Tennis and swimming.

High school commencement.

Horse shows and boxing.

Kittenball.

Fairs and other civic activities.

Halloween party.

Boy or girl scout circus, community pageant.

City recreation seven nights a week from May to October.

American Legion drum corps practice.

Summer entertainment.

Holiday ceremonies, concerts.

REFERENCE SOURCES

Coaches with access to back numbers of *Scholastic Coach* may glean some valuable information on floodlighting from the following list of past articles:

"Standard Layout for Football Lighting," October 1949.

"The Alhambra Floods," May 1949.

"Football Sees the Light," by Ralph Gardner, January 1949.

"Out of the Night," January 1948.

"Light Your Rec Center," by R. J. Swackhamer, January 1947.

"And There Was Light," by R. J. Swackhamer, January 1946.

"There's Light in the Saginaw Valley," by Marshall Simpson, January 1945.

Darkness called off on account of game!



MONOTUBE TAPERED STEEL FLOODLIGHTING POLES *make sports fields useful full time*

SPORTS fields can be as useful *by night* as by day—when Union Metal floodlighting poles equipped with modern lighting units are installed. Sports, civic events and other outdoor community affairs can be enjoyed by more people than ever before. And full time sports field use means larger crowds, increased gate receipts.

You'll be wise to start your floodlighting plans *now* . . . and to include Union Metal's tapered steel poles. They're strong and durable, engineered to provide full visibility with a single lighting system. Just consider *all* their advantages:

- Standardized heights—40, 60, 80 and 100 feet.
- Made of open hearth steel and cold-rolled for greater strength.
- Complete with combination safety platform and mounting frame.
- Can be completely wired and lights mounted before erection.
- No guying necessary.
- Tapered for good appearance and additional strength.

For complete information, write The Union Metal Manufacturing Company, Canton 5, Ohio.



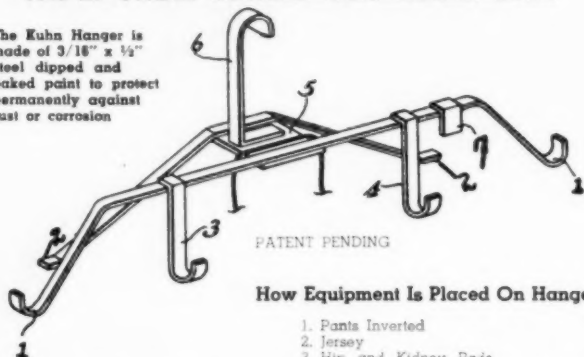
UNION METAL

Monotube Floodlighting Poles

The "Kuhn" Athletic Gear Hanger

Used for—Football—Basketball—Track—Baseball—Soccer

The Kuhn Hanger is made of 3/16" x 1/4" steel dipped and baked paint to protect permanently against rust or corrosion



PATENT PENDING

How Equipment Is Placed On Hanger

1. Pants Inverted
2. Jersey
3. Hip and Kidney Pads
4. Rib Protectors and Athletic Supporter
5. Laces of shoes tied together and hung over connecting bar
6. Shoulder Pad lays over hanger
7. Players name or number

The Kuhn Hanger

- Makes equipment last longer
- Saves on locker room space
- Insures complete drying of all equipment
- Has perfect balance with equipment in any position
- Insures against lost equipment
- Checks equipment easily
- Will last a lifetime
- Guaranteed against faulty workmanship or material for one year
- A space 28" wide x 10" long will accommodate 24 complete uniforms

PRICE

\$2.50 each—F.O.B. Latrobe, Pa.
(Price subject to change without notice)

KUHN ATHLETIC GEAR HANGER CO.

P. O. Box 566, Dawson, Pa.

Additional information sent on request

Cross-

WE'VE been banging our heads against the stone wall of Scandinavian supremacy in the 5,000 and 10,000 meter events for so long, that our so-called American "know-how" has the Swedes and the Finns (plus some Belgians, Dutch, Czechs, and Frenchmen) literally laughing up their sweat-shirt sleeves at us.

What can we do about it?

The answer lies in a long-range, nation-wide program of cross-country, beginning at the scholastic level, which will develop both our city and country boys and thus insure a steady stream of excellent two-, three-, and six-milers.

This should not be as difficult as it seems. When we make up our minds to build an atom bomb; to make planes that fly faster than the speed of sound; to perfect jet-propelled rockets; to bring our people such creature comforts as the automobile, the electric refrigerator, the modern bathroom, and television—the Europeans wonder how we do it.

We do it by concentration; getting things done by fixing our attention on details of designing, planning, organizing, producing. That is the way we can obtain superiority in long-distance running—scientifically, psychologically, physically.

STARTING POINT

The first thing to do is to study every phase of cross-country running. The idea that cross-country develops introverts, shortens the life span, and injures the health, is strictly "horse-and-buggy" thinking. In a recent college survey comparing the life span of distance runners to that of non-runners, the harriers won by several years!

With a thorough physical examination by the school physician as a prerequisite to participation, we have eliminated as far as humanly possible, any after-effects of competing in the hill-and-dale sport. As for the argument of introversion, go out to the course some afternoon and see if the boys are any less gregarious than their classmates who play football or basketball or baseball.

In organizing for cross-country, the coach should set up three objectives for himself.

IN FIELD OR GYM, KEEPS YOU IN TRIM

OLYMPIC CHAMPION

APEX No. 1

The Balanced Action Supporter



U.S. Patent 2,301,066

THE O-C MANUFACTURING CO., LITTLE FALLS, N.J.
Quality Athletic Supporters Since 1908

Country

By CHARLES V. ANDERSON

South Side H.S., Newark, N. J.

First, he must make sure he understands and is able to impart the principles of proper training habits, including a knowledge of basic metabolism and the effects of various foods and their chemicals on the body.

Second, he must map out a training program which will suit the individual needs of his 20 to 40-odd personalities and physiques, no two of which will react in the same way to any set group of rules.

Third, and last, he must study the technique of long-distance running and be able to convey it to his charges.

Let us examine the possibilities of the various *musts*.

The first problem is the development of proper training habits. We find that most boys eat haphazardly, giving hardly a thought to the fact that eating and sleeping habits must be governed with commonsense in order to enjoy good health or achieve leadership in anything, whether it be athletics, dramatics, debating, public speaking, or scholarship.

Our runner must eat three good meals a day and not nibble at sweets, hamburgers, or sodas between meals. The most important meal for these high school youngsters is breakfast. Fruit or fruit juice, cereal, one or two boiled eggs, milk, and toast make an ideal combination.

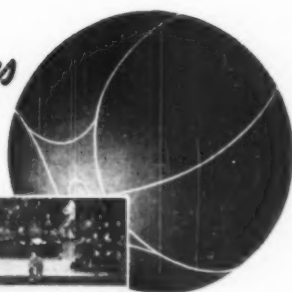
Too many adolescents tire physically and seem dull around 11 in the morning. On inquiry you often find that they have had no breakfast, ran all the way to school to avoid tardiness, and naturally have little energy left to meet the demands of the classroom.

To a cross-country runner, a "no-breakfast" morning may bring on a stitch in practice.

For lunch, a salad combination or sandwich, a glass of milk, and fruit should give the athlete the dietary balance he needs at this time of day. At night, meat, preferably roasted or broiled, NOT fried; potatoes, boiled or baked; plenty of leafy green vegetables; milk; and an oc-

(Continued on page 59)

*The finish
for Champions*



The famous portable basketball floor at Madison Square Garden . . . one of more than 15,000 courts finished with Hillyard's STAR GYM.

STAR GYM FINISH

QUESTIONS AND ANSWERS FOR COACHES

These frequently-asked questions cover the most important considerations in selecting a finish for your gym floor. In each case the right answer is Hillyard's STAR GYM . . . the finest finish ever made especially for gym floors.



Will it Work on Your Floors?

Star Gym Finish works perfectly on all types of wooden gym floors—maple, fir, beech and pine.

Is it Easy to Use?

Yes! Star Gym Finish spreads on quickly. Any custodian can apply it

with sheepskin applicator. Easy, economical to maintain.

Why Do Coaches Prefer it?

Because Star Gym Finish is tough, non-skid, no glare. Does not rubber burn. Forms a smooth, hard surface for fast, accurate play.

How Can You Have a STAR GYM FLOOR?

Consult your nearest HILLYARD "Maintainer" for expert advice on how to buy and apply Star Gym Finish. No charge—just call, write or wire for name of your nearest "Maintainer."

HANDLE WITH

HILLYARD

CARE!

St. Joseph, Missouri
U. S. A.



MODEL 165-S

GRALAB SPORTS TIMER

- LARGE 8" DIAL • ELECTRIC SIGNAL
- MINUTE and SWEEP-SECOND HANDS

Can be used as Master Game Timer or as Time-Out Timer. Widely used with Model 121-U Gralab Horn for timing of BASKETBALL, VOLLEYBALL, etc.

Model 165-S Timer

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ELECTRIC BASKETBALL SCOREBOARD

—designed the way you want it

- Fast
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110 VOLT HORN

Really
Loud



- Ideal for substituting and stopping ball games
- Eliminates use of gun
- Can be heard above the din of the crowd

Plugs into any 110 Volt source
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DON'T OVERLOOK

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if you need . . .

FENCE . . . Chain Link Wire or Iron Picket.

BASEBALL BACKSTOPS

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RAILINGS, plain and ornamental iron, and other products in iron, wire and bronze. Let us know what you need. Chances are we have it or can make it. We'll send complete information.

The Stewart Iron Works Co., Inc.
1775 Stewart Block Cincinnati 1, Ohio
Experts in Metal Fabrications Since 1886

Stewart IRON and WIRE
FENCES

Sanitation of the Facilities

(Continued from page 36)

vigilance" and a continuous educational program to maintain such a healthful condition.

The coach or instructor should inspect each swimmer as he enters the room where the pool is located. Checks should be made to make certain the individual is clean, that he does not have any sores, open cuts, or adhesive tape about his person, and that he appears to be in good health.

If the swimmer must walk any distance from the shower room to the pool, some form of foot spray or running water across the corridor will be found useful in keeping additional dirt and dust from being tracked into the water.

All indoor bathing or swimming, at least for boys, should be in the nude. When spectators, or a coeducational audience are present, tank shorts of rubber or cotton, should be worn. Much of the cloudy condition found in the water of many pools may be traced directly to the wearing of swim suits. The majority of these are of wool, and all too frequently, are seldom, if ever, laundered.

ATHLETE'S FOOT

Athlete's foot is a fungus infection, commonly contracted by walking barefooted in locker and shower rooms, around swimming pools, in fact, anywhere where the spores may have been left by someone else. The infection may be acquired even more readily by wearing socks, shoes, or supporters previously worn by others, and not cleaned or laundered properly.

While athlete's foot, or "gym itch," as it is sometimes called, is usually found between the toes, or in the groin area, it is not unusual for it to spread to other parts of the body—under the armpits or even to the eyes and ears—if it is not recognized, treated, and cured in time. Treatment and cure is, of course, the problem of a competent medical person.

It is estimated that approximately half of the school population will show some sign of foot infection during the school year. While most of these individuals will become infected in school, some of them will contact the fungi in other public places, such as at community or municipal indoor swimming and locker areas. A few may acquire it from walking barefooted in the bathroom at home.

The fact is that an infected person leaves spores wherever he walks barefooted. And when conditions are right (where there is the necessary dampness and warmth), the fungi usually begin to grow when "picked up" by the feet of another individual. It may

be that there are different kinds of fungi, and sometimes it appears that a few individuals are immune to some or all of them.

Everyone using locker, shower and dressing rooms, swimming pools and gymnasiums, should be instructed to recognize the symptoms and, especially, what to do to prevent the infection. Any soreness, cracks, or itching between the toes, or any suspicious red area under the arms or in the groin should be sufficient to send the individual to the nurse or to a physician immediately.

If it is athlete's foot, there are a number of standard forms of treatment, but treatment and remedies often vary with individual cases and with individual physicians.

As far as prevention is concerned, here are some things which have proved helpful. Frequent foot and body inspections will serve to reveal the symptoms of athlete's foot and to keep the "victims" out of the physical education facilities until a physician pronounces them cured.

The floors of the shower room, locker and dressing rooms, and especially the runway around the pool should be scrubbed several times weekly with hot water, soap, and one of the commercial products commonly labeled as a "fungicide." It is advisable to use this latter product in strength several times greater than that recommended by the manufacturer in order to provide a greater margin of safety. Your custodian also plays an important part in prevention.

Individuals should be instructed not only on how to take showers, but especially on how to use soap and water between the toes and in the crotch. Then, as a further preventive, they should dry thoroughly, especially between the toes, using a clean towel. Drying, in itself, is considered helpful in preventing infection, particularly if the individual has clean socks to put on and no spores in his shoes from previous infections.

VALUE OF POWDER

Any drying powder is considered to have some value when shaken into athletic and dress socks and into dress shoes, but even more so when dusted liberally between, over, and under the toes. An extra preventive would be to have everyone wear wooden sandals, scrubbed frequently and exposed to sunlight at intervals, when walking around in the locker room, and especially when taking showers.

This may not appear necessary when the floors are adequately cleaned at regular intervals by the custodian, but certain spots may be-

Good hits go farther

Carefully selected top grade woods — expert craftsmanship from start to finish — special finishes and processes give BATRITES extra power at the plate . . . longer life.



To get the grandstands you need in time for the coming baseball season put your requirements up to Williams. We can guarantee delivery if you order within the next 30 days.

Our 35 years' experience covers the manufacture and erection of double deck and canopied stadiums—seating up to 20,000—down to the smallest portable grandstand for outdoor or indoor use. All Williams stands have steel's strength. Their construction incorporates the famous Williams 4-to-1 safety factor which exceeds all code requirements and cuts insurance rates "to the bone." Write outlining your needs.

WILLIAMS *Steel* **GRANDSTANDS**

PORTABLE • PERMANENT INDOOR • OUTDOOR FOLDING • ROLLING

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FILL IN . . . TEAR OUT
MAIL!

WILLIAMS IRON WORKS, INC.
430 East 102nd St., New York 29, N. Y.

Gentlemen: Send me your new FREE grandstand catalog.

My name

School

Address

City State

come infectious "traps" if a person with athlete's foot walks there. And you can't always isolate such individuals before they have used the locker and shower rooms.

It is recognized that athlete's foot is seldom contracted out in the open, in dry, sunlit areas, but nearly always, indoors. Sunlight, either natural or in artificial form, such as that given off by the ultraviolet or cold cathode rays, may have some preventive value.

It must be apparent that this is a stubborn problem that can only be solved at best on a temporary basis, by the fullest cooperation between coach, custodian, participant, and medical person. But it can be controlled, if you want to do so.

In the preceding tract, an attempt has been made to discuss some of the many problems involved in maintaining healthful and sanitary conditions

WITH 25 years experience on the university and graduate level, C. O. Jackson, physical education professor at the U. of Illinois, is one of the most distinguished men in the field. Author of several books and innumerable articles on health and physical education, he is a Scholastic Coach contributor of long standing.

in the physical education and athletic facilities. Practical time-tested suggestions have been made, with no attempt to discuss such matters as sweeping compounds, disinfectants

and antiseptics, or the techniques and virtues of oil vs. wet mopping.

Most custodians already have access to such information or can secure the latest from manufacturers and extension centers. Incidentally, there is no real substitute for plenty of hot water, lots of soap, and a sufficient amount of elbow grease.

In the final analysis, the coach who is concerned about sanitation to the point where he does something about it, can make participation in physical education and athletics not only a more healthful experience but perhaps add additional enjoyment as well. There is no reason, except carelessness and neglect, why the facilities for showering and dressing cannot be kept in the same fine condition as the rest of the school building. Let's give the boys a "break!"

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FREE FOOT-CARE FILM

MODERN living conditions impose a terrific burden on the feet, and available data show that defective feet are among the most common ailments of modern life. From physical examinations of school and college students, it has been learned that a large proportion have weak feet, flat feet, corns, bunions, athlete's feet, and other ailments.

Since good feet are essential to normal living, it will behoove every physical educator to devote a good deal of time to the subject in his gym and hygiene classes.

The Walking Machine, a 16-mm. sound film, represents an excellent visual aid with which to supplement the classroom lectures. A black-and-white job with a running time of 14 minutes, it presents in dramatic sequence the importance of healthy feet, basic foot hygiene, simple foot exercises, modern treatment of foot ailments, and proper fitting of footwear.

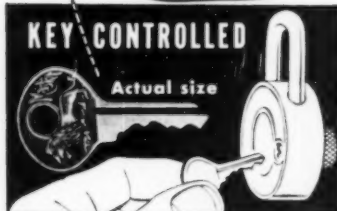
All these recommendations are graphically presented and simple to adopt. Acclaimed by foot specialists and physical educators, the film is being distributed free by the American Foot Care Institute. For reservations, see the Institute's advertisement at the bottom of the opposite page.

Finest Locker Security at a NEW LOW PRICE



Master
KEY CONTROLLED
COMBINATION
LOCK NO. 1525

For student and school, here's locker security and control at its best—plus a new low price for easy budgeting. Constructed of hard wrought metals, double-wall case—brass over steel... smooth-working, trouble-free security. That's Master No. 1525, typical of the high quality built into every Master padlock.



Master No. 1500

Rugged, dependable school favorite. Double-wall case, 3-tumbler mechanism. Like 1525 without key-control.

Compare

**QUALITY
VALUE!
PRICE!**

Write us about your lock problems.
Address Dept. 4

Master Lock Company, Milwaukee, Wis.
World's Leading Padlock Manufacturers



Coaching by Camera

(Continued from page 40)

exposure meter rating of 100 (daylight) and 64 tungsten (artificial light).

This film is developed as a negative. If the exposure has been correct, a positive print is made from the negative and both are returned together. Additional positive prints can be made from the negative, if this is desired.

Eastman Super XX negative-positive film is also satisfactory. This film is processed first as a negative then as a positive, with only one film being returned.

This special night film has produced satisfactory pictures. Ansco's Triple S Pan has a tungsten rating of 100, but we have not been able to detect the higher speed. Since the speed of the film depends on its tungsten rating, we presume that any first class film with a 64 to 100 rating would be satisfactory.

Color film makes a beautiful picture for exhibition purposes, but keep in mind that it requires bright sunshine for satisfactory results. Also keep in mind that its cost is prohibitive for ordinary pictures.

ODDS AND ENDS

There are several other miscellaneous odds and ends that add to the value of the picture. We make the following suggestions:

1. Identify each film. The conventional way to do this is to shoot a couple of feet of the front cover of the game program as the opening shot in each picture.

2. Use the scoreboard. Take a short shot of the scoreboard after each score and at the beginning of each quarter. This records the progress of the game and also shows the time left to play when each score was made. Anytime that the clock is figuring in the outcome of a close game, it might be well to shoot the clock after each play.

3. If the picture is to be shown publicly, take about 50 feet of the half-time activities, particularly if the public likes it. Otherwise skip it. If you must economize on film, here's where to do it.

4. The officials also play an important role in a well-filmed game. On penalties, show the referee as he gives the signal for the infraction. This helps considerably in following the progress of the ball as well as in checking the officials' judgment.

When



the HEAT'S on...

Many a close-fought game is won in the closing minutes by fresh replacements who can turn on the speed, grab the rebounds, net those needed two-pointers.

It's important that the boys on the bench be fit and ready to go... not hobbled by sprains, bruises, sore muscles, lame arms, legs or backs.

That's why so many leading trainers use time-tested ANTIPHLOGISTINE POULTICE. They know by experience that its soothing POULTICE HEAT goes right to work to ease pain, reduce swelling, and relax stiff muscles.

So, when the heat's on... use ANTIPHLOGISTINE POULTICE HEAT... it feels good, does good. Try it on your next "athletic" injury.

Antiphlogistine



The most widely used Kaolin-Glycerine Poultrice in the world.

The Denver Chemical Manufacturing Co., Inc., New York 13, N. Y.

FREE 16 MM FILM ON FOOT HEALTH

sent without charge

to COACHES, ATHLETIC DIRECTORS, TRAINERS

"The Walking Machine"

RESERVATIONS NOW BEING ACCEPTED
Fill In Coupon and Mail TODAY!

A black and white sound film (running time 14 minutes). Acclaimed by health authorities, foot specialists, and physical educators everywhere.

PROPER FOOT CARE WINS GAMES!

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SINCE the columns of that great and wonderful sportswriter, Stanley Woodward, don't get around much any more, we feel obliged, in the public interest, to reprint one of his recent efforts in *The Daily Compass* (New York)—a delightful piece of whimsy which deserves national distribution. Here it is in its entirety:

Notre Dame is desperate for a defeat.

The string run up by the Irish, interrupted only by ties with the Army and Southern California, extends back to 1945 and is hardly respectable for a high-standing university with an engineering school.

For several years the good fathers who operate the Institution of Our Lady have been mooning around under the golden dome figuring the chances of various innocuous opponents.

Gathering in sombre groups, they have speculated as follows:

"Can Navy beat us?"

"No! No! Much as we need it, not that!"

"What about Iowa?"

"Oh, I hope so! Oramus!"

"How about Southern Methodist?"

"Just a minute. There are lengths to which our institution cannot go!"

"Fear nothing, relief is in sight."

This from a senior cleric, "Our Francis is going to blow the job."

"Horrors!" exclaimed the others, joining hands and cavorting chastely.

"The end of our servitude is at hand. We are going to lose a game! Hurray! Hurray!"

"Yes, truly it is promised. Honest Frank Leahy is going to get out. He will enter the beer business with the good Freddie Miller. Some say he is even now pushing the High Life in Eastern grilles."

"When will our Francis leave?"

"Do not be impatient, companions. We must go through another year of penance comparable to that of St. Simon Stylites. Until 1951, our Francis will be here and will continue to cave in their roofs."

"But be of good cheer. He will then take off and the defeat we crave may come within our reach."

"Tell us who will succeed our Francis as curator of touchdowns."

"A young man named Hughie Devore, who got licked 59 to 0 by Army in 1944."

"Hurray! What qualifications?"

"Quiet, please! We have hopes for Hughie, but there were subsequent disquieting developments."

"Gracious! What now?"

"Hughie is not quite the man we had hoped he was. Only last Saturday, cruelly and apparently with considerable skill, he piloted a group of St. Bonaventures into a hopeless fray with Boston University and knocked the stuffing and the bowl hopes out of this formidable force."

"Miserere!"

"Let us be patient. Hugh may slip back to his old techniques. Let us be patient."

"Will the great day finally come?"

"Qui nescit."

"Oh, let us wait for it!"

"Patience and Fortitude!"

"What assurance have we that our beloved Francis is really going to blow the job?"

"It was given out in a burst of oratory by Joe Byrne, Commissioner of the Port of New York, at a gathering of the inner press circle and was carried on the wires of the glorious AP, UP and INS."

"But it was subsequently denied!"

"Yes, but on the recent regretted trip to New York when our lads defeated North Carolina, our Francis virtually denied it to selected members of the press."

"That he may remember his denial of the denial!"

"Should our beloved Francis blow the job, would the Big Ten and the Army look on our university again with favor?"

"Be not hasty, my friend. The amity of the Big Ten and the Army will come only after the less haughty opponents have buried our noses in the turf of Carter Field."

"But the day will come, won't it, under the tutelage of the estimable Hughie Devore?"

"It will come, my son. Not soon, perhaps. But it will come. Only today I heard encouraging news. The Texas Rangers have surrounded Long View to keep Coy McGee's brother Carl, 6-2, 210, :09.5, from getting out of the state to enter Notre Dame."

"What a glorious group the Rangers! What esprit de corps!"

Slapsie Maxie Rosenbloom cornered his pal, Max Baer, one day and began ribbing him about the licking he had taken from Joe Louis. "Kid me all you like," said Baer. "Just the same, I gave Louis a terrific scare."

"Yeah," agreed Rosenbloom, "you sure did. For a while he musta thought he'd killed you!"

Gil Dodds was an ordained minister while he was making track history as America's greatest miler. One night, after he had won another sensational victory, he was buttonholed by a reporter who importuned him for a statement on his victory.

"The Lord ran with me tonight," explained the Flying Parson.

"And what happened to you?" the newshound asked the highly touted runner who had been badly beaten by Dodds.

"What do you think?" snapped the beaten rival, "I had to run alone!"

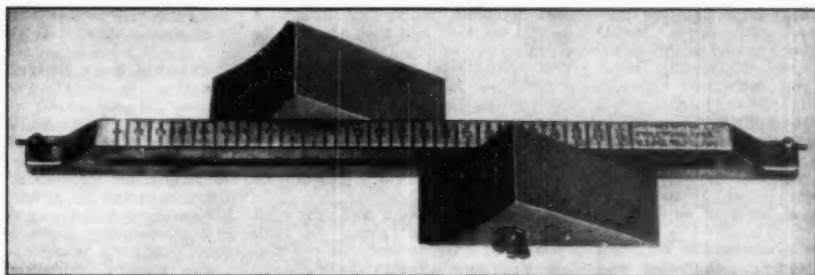
A handful of fans sat in the stands to welcome home a pathetic band of ballplayers who had finished in the cellar the previous year and hadn't won a victory during spring training. The ceremonies started with the traditional march to the flagpole. As the players approached the exit gate in center field, a fan leaped to his feet and in a voice full of anguish, cried: "Open the gate somebody! Open the gate and let the poor slobs keep marching!"

"Has any high school back ever surpassed the performance that Bob Beck, of Clare (Mich.) High, turned in against Evart High this season?" queries Don Richardson, Clare coach. "Beck carried the ball 11 times for a total of 254 yards, a neat 23-yard average. Had he not been slowed down by a bad ankle, he would have gone all the way in 9 of his 11 tries. As it was, he scored only four touchdowns."

Hey, you Texas coaches, is it true what they say about Carl McGee, of Longview High? According to the grapevine, Carl is the closest thing to Jim Thorpe the sports world has ever seen. (Note the reference to Carl in Woodward's column up front.)

A reporter-friend tells us that Carl is a basketball player who averages 25 points a game, a track man who has averaged six first places a meet, an all-state footballer who rushed the ball for a total of 3,000 yards in his first six games this year (an average of over 500 yards a game on rushing alone—it doesn't seem possible), and that baseball is young McGee's best sport!

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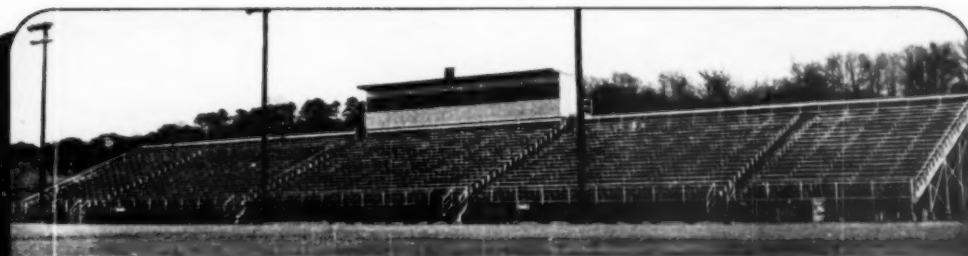
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Is this another one of those big blows out of Texas?

Red Blaik, Army coach, and **Billick Whelchel**, Navy coach, were standing in a corner of the Army gym back in 1943 as the Navy players started coming out on their way to Michie Stadium. As each passed by, Whelchel would tell about the terrible afflictions which the individual had suffered. He piled it on, rattling off a lugubrious list of charleyhorses, fractures, sprains, abrasions and contusions.

"There's one other man I'd like to point out to you, Red," he said, "but I don't see him. He must be dead."

Undeclared Jamestown (N. Y.) High was leading undefeated and favored North Tonawanda High 18-0 in the final quarter this past fall, when Tonawanda was called offside. They had gained nothing on the play, and a refusal meant fourth down and six to go. The Jamestown captain naturally refused the penalty, and it was so announced over the p. a. system.

A feminine rooter from Tonawanda, who had been getting sadder and quieter as the game progressed, perked up a little as she heard this. "Well," she said, "those Jamestown boys are good sports, anyway."

Incidentally, reports Coach Sam Hammerstrom, Jamestown wound up

the season undefeated and untied for the first time since 1898—51 years!

Sam Giangreco, the eminent football referee, runs a sports club for officials at Isaac Young Jr. High in New Rochelle, N. Y. One afternoon he told the kids that they were to be given an eye test by the school nurse. The period went on, but the nurse didn't show. Just before the bell rang, she popped in—and the boys gasped. A prettier young thing never graced a white starched uniform. She apologized for not being able to keep the date, and left—with every pair of eyes following her.

Sam turned around and surveyed the gawking class. "Boys," he said, "you don't have to worry about the test. Your eyes are all right."

Early one morning a bookie was walking down a deserted street when he suddenly heard a groan. "Oh, what a lousy life this is!" The man stopped and looked up and down the street. The only living thing in view was a weary-looking horse hitched to a wagon piled high with bananas. The bookie stammered, "You, a horse talking? I—I can't believe it."

"I don't blame you," said the horse. "What's incredible is the life I lead—me, who once won the Kentucky Derby. All day long I pull this heavy wagon full of bananas."

"It's awful," exclaimed the bookie.

"I'm going to tell your owner what a fool he is. Doesn't he realize what a prize he has? Why, you're the only horse in the world who can talk!"

"No, no!" said the horse in alarm. "Don't do it, please! If that louse finds out I can talk too, he'll make me yell 'Banana-a-a-as!'"

This kid Doak Walker is an All-American in more ways than one. During the past season, he was out of action with the flu and leg injuries for almost a third of the season. When he heard that he was being considered for *Collier's* All-American team, he wrote the editor asking that his name be withdrawn from consideration because there were others more deserving of the honor.

For this fine, unprecedented action, *Collier's* named him "Player of the year for sportsmanship."

The Notre Dame team also rates a good loud locomotive for a gesture it made after the SMU game. Doak Walker came into the Irish dressing room to congratulate Frank Leahy. (He hadn't been able to get into the game at all because of a bad ankle.) When the players spied him, they came streaming out of the shower and locker rooms—half dressed and undressed. They formed a huge circle and gave Doak three loud cheers. Then they called for a speech, which Walker, with watery eyes, gave.

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Doubles Balancing

(Continued from page 26)

back, his arms perpendicular to the ground and his legs flat.

2. Approaching from the rear, the top mounter stands with his feet near the bottom man's head.

3. They grasp hands. No two balancing teams use exactly the same grip, but the general idea is to interlock the thumbs and then adjust the fingers around the partner's wrists in as comfortable a position as possible. Each balancing team will have to adjust their grip to suit themselves.

4. Then the top mounter kicks off. There are two ways of doing this, and again the balancers must choose the method best suited to them. The first method is for the top mounter to stand with his feet on a line (in back or at the side of the bottom man's head), then to jump (kick off) with both feet at once. The second method is for the top mounter to stand with one foot slightly in front of the other and to kick off with one foot at a time.

5. Once in position, both men must keep their arms straight, elbows locked. The top mounter may be able to hold the position with bent arms, but then he will be muscling it and he will tire swiftly.

6. The position for the top mounter should be: rigid, back arched, head raised, legs and hips locked, toes pointed, and feet in line with the shoulders and hands.

The main difficulty that the beginning balancers must overcome is shakiness. Even powerful men afford shaky supports when first trying to hold someone in a hand-to-hand. Only by practice can the bottom man learn the knack of holding the top mounter steady.

Another difficulty is that the top mounter will try to do the balancing (especially if he knows how to do a handstand on the floor). The top mounter should try to hit the proper position and hold it without struggling, leaving the balancing up to the bottom man.

The low hand-to-hand takes

months of practice to perfect, but the balancers may use an intermediate stunt which is easier and which will help them learn the low hand-to-hand. This is the **low-low**. In this stunt, the one difference is that the bottom man places his elbows on the mat near his sides, keeping his forearms perpendicular to the ground. This gives more stability to the stunt.

A few safety practices, when properly followed, can make balancing a very safe sport. First, mats should always be used. Each team should have a mat to itself so that there won't be any chance of the teams interfering with one another.

Secondly, it is advisable to have a spotter (a fellow who stands by to aid the balancers wherever possible). The only way the top mounter can hurt himself is by overbalancing and flopping over on his back. A spotter who is prepared for just such a situation, can break the top mounter's fall or even prevent him from going over altogether.

The instructor should always supervise the balancing and explain the positions, possible weak points, and safety hints to the students.

Balancing can be lots of fun and beneficial when done in the right manner.

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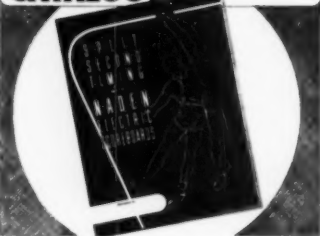
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JACK MILLER has been specializing in balancing for seven years. Although still a college student (University of Illinois), he is half of a professional acrobatic team known as *The Milburns*. Jack and his partner have appeared on both television and the stage, and posed for the pictures that accompany the article.

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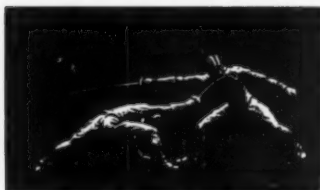


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Equipment Room

(Continued from page 14)

ment will become easily accessible to vermin.

The equipment room should be located near the dressing rooms, so that the boys can get their daily changes of gear without delay and without having to leave their dressing room. The equipment-room custodian can issue each boy a basket in which to keep his T-shirt, supporter, sweat shirt, and socks and



Illustration 4

which the equipment custodian can change as soon as they become soiled (Illustration 2).

"Block shelves" at the side of the dressing room may be assigned for shoes and/or helmet when brought in after a practice or game (Illustrations 3 and 4). This will keep the equipment off the floor at all times. During the off-season or summers, these shelves can be used to store the shoes after they have been cleaned.

When storing shoulder pads for the off-season, the hall-tree method will keep pads off floor and insure proper passage of air through and around the pads. With a sprinkling of moth flakes or dichloride, you can additionally safeguard against roaches, moths, and mice.

The equipment room should also include a rack with plenty of coat hangers on which to suspend game equipment after the contest, so that it can be dried at room temperature. These coat hangers should be covered with gauze, adhesive, or some fabric to prevent rust from transferring to the garment.

When organizing an equipment room, the custodian or administrator should be careful not to oversupply the room with open bins, because in the long run they serve as a catch-all—particularly for vermin.

Very little has been said about the care and preservation of equipment, since the objective here was the organization of an equipment room.

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Trampolining

(Continued from page 30)

basketball games, and to small colleges, high schools, boys and girls clubs, professional clinics, and community gatherings.

3. *Varsity free practice.* This group includes competitors in the varsity gymnastics program. Trampolining is included in most dual meets and is a part of the N.C.A.A. annual gymnastic meet.

4. *High school practice.* During the year, a number of high schools visit the U. of Nebraska for instruction in and interpretation of the exercises used in the annual state high school championships. The University is also fortunate in having a Teachers College that believes in a physical education program for all, so that there are always a number of pupils who practice on the trampoline daily.

5. *Recreational activity.* Includes both college and high school students. A number of both groups are on hand to use the trampoline during the hours from 3 p.m. to 6 p.m. A few use the trampoline at other times during the day for recreational purposes depending, of course, on their schedules.

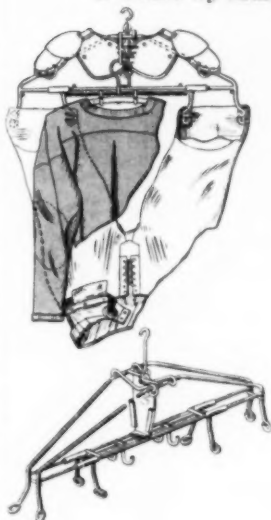
6. *High school competition.* It has been possible to arrange a number of dates during the year for high school invitational, dual, triangular, and quadrangular meets because of the fact that the University is centrally located for most competing high schools. Competition is held on the trampoline and a clinic is conducted for all interested team members after the competition. The trampoline is also used in the state high school activities association annual gymnastics championship.

7. *Collegiate competition.* Trampoline competition is scheduled in the majority of gymnastics dual meets. In addition, the trampoline will be used in the Mid-West invitational gymnastic meet to be held at the University this year.

8. *Training and conditioning.* A number of individuals use the trampoline for purposes of training and conditioning. Some individuals work on balance, others on leg strength. "wind" is increased by some, and special practice on certain twists and turnovers is undergone by others. The trampoline offers excellent opportunities to assist the athlete in rounding into shape and at the same time it is "fun."

The fundamental exercises are as follows: feet bounce, hands and knees bounce, knees bounce, seat bounce, back drop, feet bounce with

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a full turn, and combination of three of the previously mentioned bounces with one feet bounce only between each bounce.

The feet bounce is executed from a standing position. The individual springs into the air, keeping the body in a vertical position. The feet are kept slightly apart on landings and take-off positions, while the arms are used to help maintain balance and gain additional height.

For excellent descriptions and explanations regarding trampoline instruction, the author recommends the book *Trampoline Tumbling* by Larry Griswald, published for the Fred Medart Manufacturing Co. by Business Collaborators, Inc., St. Louis, Mo.

Many varieties of warm-up exercises are used and the combinations are entirely different. The less experienced performers may use the simple exercises in combinations, repeating many times any specialty they have mastered.

The experienced performers utilize the fundamental exercises only to gain balance or increase height (the feet bounce) for the more difficult stunts. They do not repeat their specialties in warm-up routines, but use a great variety of exercises.

"Here Below"

(Continued from page 5)

that he hopes it will reach the Rules Committee one of these days.

With all its minor flaws, the idea is still a big improvement over the extra-point rule as currently constituted.

OUR efforts to flush out the inventor of the open huddle are becoming more and more absorbing. The trail has led from Frank Leahy (circa 1949) to Floyd Eby (1946) to Vic Obeck-Otis Douglas (1942) and now—thanks to a communique just received from Fred Lort, of Upper Darby (Pa.) High School—all the way back to Voss Miller (1930).

"When I played at Franklin and Marshall in 1930-33 under Voss Miller, we used the open huddle," Brother Lort writes. "Furthermore, Wilbur (Dutch) Lehman, who was Voss' assistant at the time, left to coach Cheltenham (Va.) High in 1932 and has been using this huddle for the past 17 years."

Can anybody top this? (Didn't George Washington use a variation of the open huddle at Valley Forge? Had a pretty good year, too.)

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IN most instances a RainMobile can cover an average athletic field from one valve outlet at the side or in the center of the field. Under average conditions it will require two parallel runs, but in some cases perhaps three. To do the work expediently it is recommended that two RainMobiles be operated simultaneously as one run of 300 feet will require an average of 5 to 9 hours time.

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Cross-Country

(Continued from page 47)

casional pudding for dessert, are recommended.

In this way, the growing adolescent will get his rightful share of proteins, to repair and build up his body tissue, and his carbohydrates, which transfer them into energy. This, together with regularity of elimination, will develop his body tone and general health to a peak of effectiveness for competition.

Our embryonic long-distance man, having proved to his own satisfaction that there is really something to this business of eating correctly, may now apply himself to the second problem, namely, a vigorous, self-disciplined training program.

The cross-country season begins about the second week in September, with the opening of school, and lasts until the third week in November. During these 10 weeks, it is imperative for the prospect to maintain a consistent, dogged attitude toward his training routine. After the school doctor has pronounced him sound of heart and lungs, he should indulge in plenty of calisthenics, with very little running, the first week or ten days. He'll get plenty of running later!

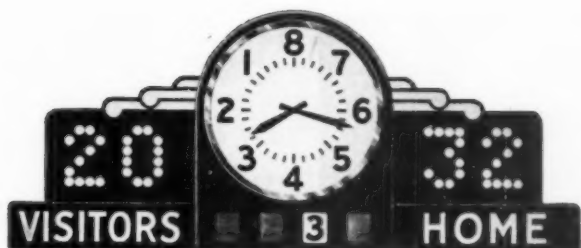
MAKE TRAINING INTERESTING

The aphorism that constant repetition breeds boredom, is true enough; and the wise coach will project his own personality into the job of keeping his charges interested in the various body-bending, leg-stretching, stomach-straining, and shoulder-heaving exercises, and yet not bored by them.

There are so many variations of these drills, that the coach will do well to practice a different set each day, thus relieving the monotony. His persistence will be repaid during the season when he notices his captain taking the initiative in "warming up" the squad just before a dual meet.

Without these calisthenics, the team will never reach its best physical condition. Often his boys will start cold in a race, and lose that jump so essential to success, especially in dual competition.

About the middle of the second week, the squad will be ready for distances varying from half a mile to a mile and a half, jogging slowly at first and then lengthening the distance each day. The coach should make sure that every boy stops as



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soon as he shows signs of extreme fatigue, otherwise he may never see that candidate out again. Very slow time is preferred at first, to build self-confidence and steady pace.

At the beginning of the third week, the coach may time his seven or eight best boys over the regular two-and-a-half mile course.

As soon as the day's workout is finished, a lukewarm shower with a cold finish should be taken. This helps take the soreness out of the muscles, thoroughly opens and cleanses the pores of the skin, and restores much-needed vitality.

This should be followed by a brisk towel rub and a leg massage with a good rubbing lotion. A compound of approximately 60% rubbing alcohol, 25% witch hazel, 10% glycerine, and 5% wintergreen, made up in a gallon jug and dispensed into smaller bottles, is ideal.

RUB-DOWN AND MASSAGE

This lotion seems to combine the qualities of penetration and lubrication so necessary to keep the muscles in flexible condition. A good rub-down and massage also serves as a psychological tonic for the tired runner.

I like my boys to come out for practice as often as they can, say five times a week, before the first meet is held. Where a boy works after school, three days of practice are all we can expect of him.

The coach should go out with his squad every day during these first important weeks. Once the season gets underway, with two dual meets a week, preferably on Tuesdays and Fridays, it is absolutely essential that the entire team be in tip-top shape, ready to negotiate the whole course without stopping.

Newcomers often come out for the squad after the third week. Although they may exhibit a lot of natural ability, you will usually find that they seldom improve after the first meet, since they did not reap the benefit of the training period.

Now for the third factor on which the coach must concentrate, the actual running technique. While no two harriers run exactly alike either in going up or down a hill, or even on level ground, certain essentials must be observed if the boy is to become a top-notch or maintain his place among the first five or six finishers.

The body must always be kept as erect as possible with as little forward lean as possible, except of course when negotiating a hill. Obviously, too much forward lean tends to shorten the stride, thus

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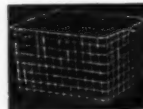
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losing the full benefit of the longest glide or "loped" the boy can muster.

In striding with rhythm and with the least expenditure of energy, the athlete must swing his arms with a minimum of movement of the shoulder and the hip. He might well cup his hands, adding still more balance to the swing of his forearm. All these things combine to promote good breathing, so necessary to smooth running.

Improper breathing can not only fatigue the boy rapidly but can ruin his running rhythm and destroy his form.

The method of hitting the ground with different parts of the foot must be consciously studied. Some runners will use the "ball-heel" touch step; that is, land on the ball of the foot and let down slightly on the heel. Others find it less tiring to use the "ball-heel plant," which means landing on the ball of the foot and immediately thereafter letting down firmly on the heel.

Some may prefer to concentrate on the "heel-ball rock-over" style; in other words, landing on the heel and rocking over on the ball of the foot and the toes. And then again there is the "toe-plant" style, which employs the initial landing on the ball of the foot, without touching the heel.

Each boy will want to try each method to see which suits his style best. During the greater part of the race, he will probably find that the "ball-heel plant" is the most natural. At the beginning and end of the race, he will be compelled to stay on his toes more, while at times when he is coasting along in order to relax, he will prefer to land on his heel to better absorb the jar.

PROPER FOOTWEAR

Here is where the item of shoes becomes important. A leather track shoe with short spikes and a heel should be used, and it is advisable to order these in the spring, in order to be sure they will arrive on time. However, there is a canvas shoe on the market with a heavy sole and a good heel, weighing about eight ounces, that is an excellent substitute for a leather product. It costs about half as much as the leather product, and is kept in stock by all the leading athletic suppliers and sporting goods companies. It greatly resembles a sneaker and is ideally suited for cross-country.

Once the competition gets under way, the boys will know pretty well who are the best eight or 10 men on the squad, and the rest will want to drop out. A good coach will never underestimate the potentialities of



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anybody on the squad, since the frailest looking boy may have the stoutest heart; so do your utmost to keep as many running throughout the season as possible.

Propose J. V. letters to the faithful, besides seven or eight varsity insignia to the leaders. And by all means insist to your principal and head of the physical ed department, that the sport be awarded major status, along with football, baseball, basketball, and track. That is the least you can do for boys of whom more is expected during a 15-minute stretch than is asked from any football player!

With these incentives, plus a flexible point-scoring system, you will probably be able to keep together 15 or 20 good prospects for the 10-week period.

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Keep the boys interested all the time. Take them on Saturday hikes if you can; mix with them in other extra-curricular activities; attend the school dances with them; in short, be a good mixer yourself without worrying too much about losing face. You'd be surprised how few of them get any encouragement at home; they need a big brother to tide them over all sorts of emotional rough spots.

And now we are back where we started—how can we "beat the Scandinavians?" Beneath all this talk of diet, training, and technique lies a deeper philosophy, namely, that of getting the most out of life. Perhaps we Americans are in such a rush to get so many things done in such a hurry, that we overlook the more obvious truth that rhythm, relaxation, poise, sustained endurance, do NOT come from doing things in a hurry! They might even come from practicing those cardinal virtues known as patience, consistency, willingness to learn, and perseverance over a long period of time!

We should walk more. The Swedes have often mentioned the many afternoons when, eschewing a fast work-out for a walk in the country, they have found themselves jogging along quietly. The point is that this training has become sub-conscious to them.

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To Our Customers:

Thank You and Best Wishes for 1950

As 1949 ends and a new year begins, we in the IVORY SYSTEM express our gratitude to those who helped to keep us so busy during the entire year. It was the biggest sales year in the history of our long time existence. THANK YOU VERY MUCH.

Our pledge to the Schools and Colleges of America

is . . . "We will not only continue to provide capable, efficient IVORY SYSTEM service during the year of 1950, but we will improve it in every possible way and make our unexcelled service available to more and more Schools and Colleges throughout the Americas."



Ivory System

Inc.

RECONDITIONERS

OF ATHLETIC

EQUIPMENT

PEABODY, MASSACHUSETTS